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Hamilton Test Systems, Inc.
Phoenix, AZ

Prepared for

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16. ABSTRACT

In Test Group 13, the objective was to evaluate the emission control performance of 1981 Ford cars with open-loop three-way catalyst emission control systems. Tests performed on the 112 cars in the task included the FTP, HFET, and various short tests. Restorative maintenance was performed on selected cars with excessive emissions.

Test group 15 consisted of a series of tests (FTP and HFET) on three different cars to evaluate a retrofit device, the Super-Mag Fuel Extender.

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TESTING SUPPORT FOR EVALUATION OF INSPECTION/MAINTENANCE ISSUES

TEST GROUP Nos. 13 & 15

by

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Contract No. 68-03-2829
EPA Project Officer: H. Anthony Ashby

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Mobile Source Air Pollution Control
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Ann Arbor, Michigan 48105

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TEST GROUP No. 13 REPORT

5.12 TEST GROUP No. 13 - EVALUATION OF THE IN-USE PERFORMANCE OF 1981 MODEL YEAR FORD VEHICLES WITH OPEN-LOOP 3-WAY CATALYST SYSTEMS

5.12.1 SUMMARY

The intention of this test group was to evaluate the emission performance of 1981 model year Ford vehicles which have "open-loop" (no feedback control) three-way catalyst systems.

112 vehicles were recruited from the Portland area and tested in their as-received condition. The fleet consisted of fifty vehicles with 1.6 liter engines, forty-seven with 3.3 liter engines, twelve with 4.2 liter engines, and three with 5.0 liter engines.

The testing on each vehicle consisted of a DEQ Idle Test, HTS Idle Test, FTP, Highway Fuel Economy Test (HFET), 50 MPH Cruise Test, Two Mode Test (loaded), three Four Mode Idle Tests (one with a spark plug disabled), Federal Short Cycle Test (replaced by the New York City Driving Cycle Test after 54 vehicles were tested), Modified Idle Test, Propane Gain Checks and a complete diagnostic check.

The average odometer reading among the 112 vehicles was 4816 miles. Composite results for the FTP and HFET were as follows:

	HC	CO	NOx	Fuel Economy
FTP :	0.37 gpm	3.44 gpm	0.66 gpm	20.28 mpg
HFET :	0.11 gpm	0.84 gpm	0.77 gpm	29.71 mpg

Maintenance was performed by HTS personnel on eight vehicles which failed EPA specified limits for the FTP, the Two Mode Test and/or the Four Mode Idle Test. Upon completion of the required maintenance, the initial as-received test sequence was repeated on the eight repaired vehicles. The retest results showed significant emission reductions on four of the vehicles, minor improvement on two vehicles, and no improvement on two vehicles.

Four vehicles, one from each engine family (1.6L, 3.3L, 4.2L, 5.0L), which passed the FTP standards were selected for additional testing using various fuels and malperformance conditions. The fuels selected were commercially available gasohol and commercially available low density and high density unleaded gasolines. Indolene was used for malperformance testing. The low and high density gasoline selections were made by EPA after a laboratory analysis was performed on 25 different locally available unleaded gasolines. The two malperformance conditions were the disconnection of the vacuum line to the EGR and the disconnection of the air pump hose. The test sequence was the same as the initial test sequence except that the HTS and DEQ Idle Tests were not performed. The order and number of sequences for each condition were as follows:

Test Conditions

No. of Sequences	Fuel	Malperformance
2	Indolene	None (Baseline)
2	High Density	None
2	Low Density	None
2	Gasohol	None
2	Indolene	EGR Disconnected
2	Indolene	Air Pump Disconnected
1	Indolene	None (Final Baseline)

Before the catalyst (engine-out) exhaust measurements of HC and CO were made for selected short tests during the second Indolene baseline and the four malperformance test sequences.

The FTP composite results of the four vehicles tested were as follows: (Emissions are in grams per mile).

Condition	HC	CO	CO2	NOx	Fuel Economy
Indolene	0.32	2.75	484.1	0.76	18.61 mpg
High Density Fuel	0.41	4.60	486.0	0.66	18.35 mpg
Low Density Fuel	0.34	3.51	480.9	0.74	18.69 mpg
Gasohol	0.35	3.62	466.5	1.00	18.56 mpg
EGR Disconnected	0.36	2.90	487.8	2.11	18.64 mpg
A/P Disconnected	2.39	42.86	412.2	0.39	18.81 mpg

5.12.2 VEHICLE SELECTION

The vehicles selected for this test group were 1981 model year Fords with "open-loop" three-way catalyst systems. The specified engines and models were as follows:

Engine Size	Models
1.6 liter	Escort, Lynx
3.3 liter	Mustang, Capri, Fairmont, Zephyr, Granada, Cougar, XR-7, Thunderbird
4.2 liter	(same as 3.3 liter)
5.0 liter	Thunderbird, XR-7

A listing of owners of the desired vehicles was obtained from Ad-Mail, a local direct mail advertising company which maintains records of new car sales in the Portland area. A summary of the number of owners provided for each engine and model combination was as follows:

Engine	Make	Model	Quantity
1.6 liter	Ford	Escort	290
1.6 liter	Mercury	Lynx	79
3.3 liter	Ford	Mustang	43
3.3 liter	Ford	Fairmont	63
3.3 liter	Ford	Granada	40
3.3 liter	Ford	T-Bird	1
3.3 liter	Mercury	Capri	12
3.3 liter	Mercury	Zephyr	8
3.3 liter	Mercury	Cougar	12
4.2 liter	Ford	Mustang	6
4.2 liter	Ford	Fairmont	6
4.2 liter	Ford	Granada	4
4.2 liter	Ford	T-Bird	11
4.2 liter	Mercury	Capri	1
4.2 liter	Mercury	Zephyr	1
4.2 liter	Mercury	Cougar	2
4.2 liter	Mercury	XR-7	4
5.0 liter	Ford	T-Bird	17
5.0 liter	Mercury	XR-7	1
	TOTAL :		601

5.12.3 VEHICLE RECRUITMENT

One hundred twelve (112) 1981 model year Ford vehicles with "open-loop" three-way catalyst systems were recruited. The quantities of each engine size were selected to be approximately proportional to Ford production volume. A listing of the vehicles is provided on Table 5.12-1 with the quantities of each engine size being as follows:

Engine	Quantity
1.6 liter	50
3.3 liter	47
4.2 liter	12
5.0 liter	3

Emission control systems on all cars also included EGR and air pump.

The incentives for recruitment included a U.S. Savings Bond (cash value $37.50), the use of a late model loan car, free repairs (if required), and a full tank of gas upon return of the participant's vehicle.

The legend for Tables 5.12-1 is as follows:

CID - Cubic Inch Displacement
FS - Fuel Metering System
C - No. of Cylinders
T - Transmission (1=Manual, 2=Automatic)
AC - Air Conditioning (1=Yes, 2=No)

TABLE 5.12-1 VEHICLE IDENTIFICATION INFORMATION

EPA NO	VEH IDENT NO	MAKE	MODEL	CID	FS	C	T	AC	EPA CERT MPG FTP	HFET
11601	1FABP0528BW103686	FORD	ESCOR	98	2V	4	1	2	30	44
11602	1FABP052XBW100868	FORD	ESCOR	98	2V	4	1	2	30	44
11603	1FABP0529BW101722	FORD	ESCOR	98	2V	4	1	2	30	44
11604	1FABP0520BW101950	FORD	ESCOR	98	2V	4	1	2	30	44
11605	1FABP0529BW113479	FORD	ESCOR	98	2V	4	1	2	30	44
11606	1FABP0529BW100859	FORD	ESCOR	98	2V	4	1	2	30	44
11607	1FABP0526BW121216	FORD	ESCOR	98	2V	4	2	2	26	36
11608	1FABP0527BW103680	FORD	ESCOR	98	2V	4	1	2	30	44
11609	1FABP0528BW142178	FORD	ESCOR	98	2V	4	1	2	30	44
11610	1FABP052XBW114754	FORD	ESCOR	98	2V	4	1	2	30	44
11611	1FABP0825BW151125	FORD	ESCOR	98	2V	4	2	1	26	36
11612	1FABP052XBW103687	FORD	ESCOR	98	2V	4	1	2	30	44
11613	1FABP0525BW103676	FORD	ESCOR	98	2V	4	1	1	30	44
11614	1FABP0527BW119281	FORD	ESCOR	98	2V	4	1	2	30	44
11615	1MFBP6321BW606698	MERC	LYNX	98	2V	4	2	2	26	36
11616	1FABP0527BW107941	FORD	ESCOR	98	2V	4	1	2	30	44
11617	1FABP0521BW117185	FORD	ESCOR	98	2V	4	1	1	30	44
11618	1FABP0526BW125539	FORD	ESCOR	98	2V	4	1	2	30	44
11619	1FABP0521BW110205	FORD	ESCOR	98	2V	4	1	2	30	44
11620	1MEBP6323BW607044	MERC	LYNX	98	2V	4	1	2	30	44
11621	1FABP052XBW112499	FORD	ESCOR	98	2V	4	1	2	30	44
11622	1MEBP6528BW603309	MERC	LYNX	98	2V	4	1	2	27	42
11623	1MEBP6526BW602563	MERC	LYNX	98	2V	4	1	2	27	42
11624	1FABP0829BW124199	FORD	ESCOR	98	2V	4	1	2	27	42
11625	1FABP0528BW117183	FORD	ESCOR	98	2V	4	1	2	30	44
11626	1FABP0524BW104091	FORD	ESCOR	98	2V	4	1	2	30	44
11627	1FABP0821BW107922	FORD	ESCOR	98	2V	4	1	2	27	42
11628	1FABP0528BW113084	FORD	ESCOR	98	2V	4	1	2	30	44
11629	1FABP0525BW106027	FORD	ESCOR	98	2V	4	1	2	30	44
11630	1FABP0825BW107514	FORD	ESCOR	98	2V	4	1	2	27	42
11631	1FABP0528BW127048	FORD	ESCOR	98	2V	4	2	2	26	36
11632	1FABP0829BW117205	FORD	ESCOR	98	2V	4	1	2	27	42
11633	1FABP0524BW213490	FORD	ESCOR	98	2V	4	1	2	30	44
11634	1MEBP6525BW607401	MERC	LYNX	98	2V	4	2	2	26	36
11635	1FABP0829BW103689	FORD	ESCOR	98	2V	4	1	2	27	42
11636	1FABP0823BW100867	FORD	ESCOR	98	2V	4	1	2	27	42
11637	1FABP0820BW103622	FORD	ESCOR	98	2V	4	1	2	27	42
11638	1FABP0822BW106062	FORD	ESCOR	98	2V	4	1	2	27	42
11639	1FABP082XBW103684	FORD	ESCOR	98	2V	4	1	2	27	42
11640	1FABP0823BW112503	FORD	ESCOR	98	2V	4	1	2	27	42

TABLE 5.12-1 VEHICLE IDENTIFICATION INFORMATION (CONT'D)

EPA NO	VEH IDENT NO	MAKE	MODEL	CID	FS	C	T	AC	EPA CERT MPG FTP	HFET
11641	1FABP0821BW103685	FORD	ESCOR	98	2V	4	1	2	27	42
11642	1FABP0520BW107974	FORD	ESCOR	98	2V	4	1	2	30	44
11643	1FABP0523BW132450	FORD	ESCOR	98	2V	4	2	2	26	36
11644	1MEBP6523BW602276	MERC	LYNX	98	2V	4	1	2	27	42
11645	1FABP0529BW143145	FORD	ESCOR	98	2V	4	1	2	30	44
11646	1FABP0829BW117186	FORD	ESCOR	98	2V	4	1	1	27	42
11647	1FABP0521BW135203	FORD	ESCOR	98	2V	4	2	2	26	36
11648	1FABP0521BW135198	FORD	ESCOR	98	2V	4	2	2	26	36
11649	1FABP0528BW131715	FORD	ESCOR	98	2V	4	2	1	26	36
11650	1FABP0527BW142169	FORD	ESCOR	98	2V	4	1	2	30	44
13301	1FABP12B1BR105806	FORD	MUSTA	200	1V	6	2	2	20	28
13302	1FABP13BXBR100862	FORD	MUSTA	200	1V	6	2	2	20	28
13303	1FABP15B0BR102343	FORD	MUSTA	200	1V	6	2	1	20	28
13304	1FABP13B6BR102415	FORD	MUSTA	200	1V	6	2	1	20	28
13305	1FABP12B5BR100849	FORD	MUSTA	200	1V	6	2	1	20	28
13306	2FABP23B0BX109193	FORD	FAIRM	200	1V	6	2	2	18	24
13307	2FABP23B7BX101270	FORD	FAIRM	200	1V	6	2	1	18	24
13308	2FABP23B7BX109191	FORD	FAIRM	200	1V	6	2	2	18	24
13309	1FABP23B7BK124227	FORD	FAIRM	200	1V	6	2	1	18	24
13310	2FABP23B3BX115912	FORD	FAIRM	200	1V	6	2	2	18	24
13311	1FABP21B0BK115419	FORD	FAIRM	200	1V	6	2	2	20	28
13312	2FABP23B5BX106984	FORD	FAIRM	200	1V	6	2	2	18	24
13313	1FABP26B7BG109354	FORD	GRANA	200	1V	6	2	1	19	25
13314	1FABP21B0BK115050	FORD	FAIRM	200	1V	6	2	1	20	28
13315	1FABP26B1BG117482	FORD	GRANA	200	1V	6	2	1	19	25
13316	1FABP26B7BG102064	FORD	GRANA	200	1V	6	2	1	19	25
13317	1FABP26B2BG107768	FORD	GRANA	200	1V	6	2	1	19	25
13318	1FABP12BXBF126493	FORD	MUSTA	200	1V	6	2	1	20	28
13319	1FABP12B9BF147531	FORD	MUSTA	200	1V	6	2	1	20	28
13320	1FABP26B3BG116866	FORD	GRANA	200	1V	6	2	1	19	25
13321	1FABP26B5BG102063	FORD	GRANA	200	1V	6	2	1	19	25
13322	1FABP26B3BG123459	FORD	GRANA	200	1V	6	2	1	19	25
13323	1FABP10B5BF161008	FORD	MUSTA	200	1V	6	1	2	19	32
13324	1FABP26B9BG121893	FORD	GRANA	200	1V	6	2	1	19	25
13325	2MEBP70B2BX604506	MERC	ZEPHY	200	1V	6	2	2	20	28
13326	1MEBP67B3BR601023	MERC	CAPRI	200	1V	6	1	2	19	32
13327	2FABP21B3BX148900	FORD	FAIRM	200	1V	6	2	1	20	28
13328	1MEBP73B8BK613094	MERC	ZEPHY	200	1V	6	2	1	18	24
13329	2FABP21BXBX146500	FORD	FAIRM	200	1V	6	2	1	20	28
13330	1FABP22BXBK106645	FORD	FAIRM	200	1V	6	2	1	20	28

TABLE 5.12-1 VEHICLE IDENTIFICATION INFORMATION (CONT'D)

EPA NO	VEH IDENT NO	MAKE	MODEL	CID	FS	C	T	AC	EPA CERT MPG FTP	HFET
13331	1FABP26B7BG110150	FORD	GRANA	200	1V	6	2	2	19	25
13332	1FABP26B9BG109355	FORD	GRANA	200	1V	6	2	1	19	25
13333	1FABP21B4BK144289	FORD	FAIRM	200	1V	6	2	1	20	28
13334	1MEBP68B4BR603527	MERC	CAPRI	200	1V	6	2	2	20	28
13335	1MEBP77B1BG603570	MERC	COUGA	200	1V	6	2	1	19	25
13336	1FABP12B3BF161005	FORD	MUSTA	200	1V	6	1	2	19	32
13337	1FABP10BXBF171551	FORD	MUSTA	200	1V	6	2	2	20	28
13338	1FABP27B2BG107770	FORD	GRANA	200	1V	6	2	1	19	25
13339	1FABP15BXBF163071	FORD	MUSTA	200	1V	6	1	2	19	32
13340	1FABP13B5BF160307	FORD	MUSTA	200	1V	6	2	1	20	28
13341	1MEBP77BXBG603907	MERC	COUGA	200	1V	6	2	1	19	25
13342	2MEBP73B4BX605488	MERC	ZEPHY	200	1V	6	2	2	18	24
13343	1FABP15B6BF133274	FORD	MUSTA	200	1V	6	1	2	19	32
13344	1FABP13B8BF147938	FORD	MUSTA	200	1V	6	1	2	19	32
13345	1FABP15B8BF149721	FORD	MUSTA	200	1V	6	1	2	19	32
13346	1FABP15B8BF135320	FORD	MUSTA	200	1V	6	2	2	19	32
13347	1FABP21B3BK112840	FORD	FAIRM	200	1V	6	2	1	19	32
14201	1FABP15D6BR104843	FORD	MUSTA	255	2V	8	2	2	19	28
14202	1FABP27D5BG106680	FORD	GRANA	255	2V	8	2	1	18	25
14203	2FABP23D2BX146473	FORD	FAIRM	255	2V	8	2	2	18	25
14204	1FABP27D7BG121150	FORD	GRANA	255	2V	8	2	1	18	25
14205	1FABP15D7BF151252	FORD	MUSTA	255	2V	8	2	2	19	28
14206	1MEBP90D8BH612221	MERC	XR-7	255	2V	8	2	1	18	28
14207	1FABP42D7BH116284	FORD	TBIRD	255	2V	8	2	1	18	28
14208	1FABP42D0BH141057	FORD	TBIRD	255	2V	8	2	1	18	28
14209	1FABP15D9BF165864	FORD	MUSTA	255	2V	8	2	1	19	28
14210	1MEBP90D4BH615553	MERC	XR-7	255	2V	8	2	1	18	28
14211	1FABP42D8BH141775	FORD	TBIRD	255	2V	8	2	1	18	28
14212	1FABP42D4BH137268	FORD	TBIRD	255	2V	8	2	1	18	25
15001	1FABP42F2BH103461	FORD	TBIRD	302	2V	8	2	1	16	26
15002	1FABP42FXBH127426	FORD	TBIRD	302	2V	8	2	1	16	26
15003	1FABP42F0BH131288	FORD	TBIRD	302	2V	8	2	1	16	26

5.12.4 TEST PROCEDURES

5.12.4.1 Initial Test Sequence

Each vehicle was tested in its as-received condition in accordance with the following sequence of tests:

Idle Test at DEQ test station (Ref. para. 4.3.1)
Idle Test at HTS facility (Ref. para. 4.3.1)
Federal Test Procedure (Ref. para. 4.3.3 and 4.3.4)
50 MPH Cruise Test (Ref. para. 4.3.8)
Highway Fuel Economy Test (HFET) (Ref. para. 4.3.6)
Federal Short Cycle Test (Ref. para. 4.3.11)
Four-Mode Idle Test (Ref. para. 4.3.9)
2nd Four-Mode Idle Test
Modified Idle Test
Two-Mode Test (Ref. para. 4.3.7)
Four-Mode Idle Test with one spark plug disabled
Propane Gain Check (Ref. para. 4.3.10)
Diagnostic Inspection (Ref. para. 4.3.2)

The Federal Short Cycle Test was replaced by the New York City Driving Cycle Test (Ref. para. 4.3.12) after 54 vehicles had been tested. Both tests are CVS tests using FTP dynamometer loads. The Federal Short Cycle includes 9 operating modes, takes 125 seconds and covers 0.7536 mile. The New York City Cycle is 9 minutes 58 seconds long and covers 1.18 miles.

The preconditioning for the 2nd Four-Mode Idle Test was an engine off condition for one to three minutes. This was different from the normal Four-Mode Idle Test which is preceded by a six minute engine idle. Sampling for the test began 30 to 60 seconds after restarting.

The Modified Idle Test is a three-mode test which consists of measuring raw exhaust HC, CO, and NOx emissions at 2500 rpm, idle in neutral and idle in drive (for vehicles with automatic transmissions). Upon completion of the 2nd Four-Mode Test, the engine was turned off. After one to three minutes the engine was restarted and immediately brought to a speed of 2500 rpm. After one minute at 2500 rpm a sample was recorded for 30 seconds, after which the engine was brought back to curb idle and measurements for the idle in neutral and idle in drive modes were taken.

The Propane Gain Checks were performed in three different conditions with the vehicle in neutral gear. The conditions were:

- with the PCV valve in place,
- with the PCV valve removed from its seat and drawing underhood air,
- as specified by the manufacturer.

Vehicles with automatic transmissions were also checked in Drive gear for the three conditions.

5.12.4.2 Maintenance and Retest

The decision for performing maintenance was based on the emission results during the initial test sequence for the FTP, Four-Mode Idle Test and the Two-Mode Test.

In general, vehicles with emissions higher than those listed below for either the FTP or a short test were subjected to maintenance:

	HC	CO	NOx
FTP	0.82 gpm	10.0 gpm	1.5 gpm
Two-Mode Test (either mode)	220 ppm(hexane)	1.2%	-------
1st Four-Mode Idle Test (2500 rpm, 2nd Idle, or idle drive mode)	220 ppm(hexane)	1.2%	-------

HTS personnel performed a one-step maintenance procedure on each vehicle selected. (Additional maintenance was required in two cases.) The following items were inspected and repairs made as necessary utilizing procedures specified by the manufacturer.

- Fuel System
- Ignition System
- Emission Controls
- Hoses, Lines, and Wires

Upon completion of the required maintenance each vehicle was retested in accordance with the initial test sequence.

5.12.4.3 Tests with Various Fuels and Malperformance Conditions

The procedure for this test phase was to select four vehicles which had emissions within Federal standards and conduct a series of test sequences with various fuels and simulated conditions of malperformance. The conditions are described below:

Sequence No.	Fuel	Malperformance
1	Indolene	None (Baseline)
2	Indolene	None (Baseline)
3	High Density Commercial	None
4	High Density Commercial	None
5	Low Density Commercial	None
6	Low Density Commercial	None
7	Gasohol	None
8	Gasohol	None
9	Indolene	EGR Disconnected
10	Indolene	EGR Disconnected
11	Indolene	Air Pump Disconnected
12	Indolene	Air Pump Disconnected
13	Indolene	None (Final Baseline)

The selection of the commercial fuels was made after laboratory analysis to determine the densities of 25 samples of locally purchased gasoline. EPA selected one low density and one high density gasoline to be used for the tests. Specific gravities at 60° F were .739 and .746, respectively. The specific gravity of Indolene was .741.

The malperformance conditions were accomplished as follows:

EGR Disconnect - The vacuum line to the EGR valve was disconnected and plugged such that no vacuum was available to the EGR valve and no vacuum leak to the engine occurred.

Air Pump Disconnect - The air pump output hose was disconnected at the air pump side and plugged.

In each of the above conditions the initial test sequence (ref. paragraph 5.12.4.1) was performed. In addition, before-the-catalyst (engine-out) exhaust measurements of HC and CO were made for selected short tests. These tests were conducted during the second Indolene baseline and the four malperformance tests (sequences number 2,9,10,-11 & 12). The short tests involved were the 50 MPH Cruise Test, the

first Four-Mode Idle Test and the Two-Mode Test. The exhaust measurements were taken on a separate EPA-75 garage analyzer at the same time that the normal measurements were made.

During this phase of the testing a change to the equipment configuration was made in preparation for the next Test Group. The Flame Ionization Detector (FID) used for raw exhaust measurements was removed and the garage analyzer was connected to the HC strip chart recorder. The analyzer was also modified to provide full scale outputs of 200 and 2000 ppm hexane.

5.12.4.4 Shift Speeds, Horsepower and Inertia Weight Settings

The actual horsepower and inertia weight settings used for the FTP, Highway Fuel Economy Test, Federal Short Cycle Test and New York City Driving Cycle Test are shown on Table 5.12-9.

The shift speeds for vehicles with manual transmissions were as follows:

Model	1-2	2-3	3-4
Escort	15 mph	25 mph	35 mph
Lynx	15 mph	25 mph	35 mph
Mustang	15 mph	25 mph	40 mph
Capri	10 mph	20 mph	30 mph

5.12.5 TEST RESULTS

Composite FTP emissions in grams per mile and fuel economy for this test group are presented in Table 5.12-2. The data are arranged by engine size for initial tests, before and after maintenance tests, and the tests with various fuels and malperformance conditions. The average EPA certification fuel economy values are shown as a reference.

TABLE 5.12-2

FTP COMPOSITE RESULTS

Initial Test Results

Engine	Qty	HC	CO	CO2	NOxc	MPG	AVG. EPA CERT. MPG
1.6 liter	50	0.46	5.99	358.8	0.61	24.04	28.38
3.3 liter	47	0.25	1.32	505.8	0.62	17.49	19.21
4.2 liter	12	0.51	1.59	532.9	0.95	16.54	18.25
5.0 liter	3	0.28	1.76	537.9	1.10	16.37	16.00
ALL	112	0.37	3.44	444.0	0.66	20.28	23.11

Results of Tests on Vehicles Requiring Maintenance

	Qty	HC	CO	CO2	NOxc	MPG
Before Repairs :	8	1.31	10.81	384.1	0.57	22.34
After Repairs :	8	0.68	7.05	377.4	0.54	23.11

Results of Tests with Various Fuels and Malperformance (average of two tests except as noted)

Vehicle	Condition	HC	CO	CO2	NOxc	MPG
Escort (1.6 liter)	- Indolene (1)	0.44	5.22	354.5	0.48	24.33
	- High Density Fuel	0.62	9.01	359.7	0.53	23.60
	- Low Density Fuel	0.44	6.15	354.0	0.60	24.30
	- Gasohol Fuel	0.46	6.48	344.6	0.67	24.00 *
	- EGR Disconnect	0.40	4.14	342.9	1.36	25.30
	- Air Pump Disconnect	1.08	29.59	301.8	0.27	25.30
Fairmont (3.3 liter)	- Indolene (1)	0.31	2.63	513.0	0.77	17.13
	- High Density Fuel	0.38	3.83	511.4	0.73	17.10
	- Low Density Fuel	0.36	4.07	507.6	0.72	17.25
	- Gasohol Fuel	0.37	3.81	495.8	1.02	17.10 *
	- EGR Disconnect	0.33	3.72	522.0	2.47	16.80
	- Air Pump Disconnect	3.23	58.53	415.3	0.28	17.15

Table 5.12-2 (Cont'd)

Vehicle	Condition	HC	CO	CO2	NOxc	MPG
Fairmont (4.2 liter)-	Indolene (1)	0.31	1.80	527.3	0.74	16.70
	- High Density Fuel	0.32	2.38	525.6	0.70	16.70
	- Low Density Fuel	0.32	1.96	521.6	0.78	16.90
	- Gasohol Fuel	0.30	1.76	501.8	1.22	17.00 *
	- EGR Disconnect	0.39	2.31	529.3	2.52	16.60
	- Air Pump Disconnect	3.10	53.68	432.9	0.49	16.80
T-Bird (5.0 liter)	- Indolene (1)	0.22	1.36	541.8	1.08	16.27
	- High Density Fuel	0.33	3.18	547.3	0.69	16.00
	- Low Density Fuel	0.26	1.85	540.4	0.86	16.30
	- Gasohol Fuel	0.29	2.45	523.7	1.08	16.20 *
	- EGR Disconnect	0.31	1.45	557.2	2.08	15.85
	- Air Pump Disconnect	2.17	29.63	499.1	0.53	16.05

* The carbon balance equation was adjusted for the 10% Ethanol used in the gasohol.

$$MPG = \frac{2336}{0.866\,HC_{mass} + 0.429\,CO_{mass} + 0.273\,CO_{2\,mass}}$$

(1) Average of initial two baseline and final baseline tests on Indolene.

5.12.5.1 Initial Test and After-Repair Tests

The test results for each vehicle are provided on Tables 5.12-3 through 5.12-13. The contents of the tables are as follows:

Table 5.12-3	DEQ & HTS Idle Test
Table 5.12-4	Two-Mode & 50 MPH Cruise Tests
Table 5.12-5	Four-Mode Test
Table 5.12-6	Second Four-Mode Test
Table 5.12-7	Four-Mode Test - Spark Plug Disabled
Table 5.12-8	Modified Idle Test
Table 5.12-9	FTP & HFET
Table 5.12-10	Federal Short Cycle Test
Table 5.12-11	New York City Driving Cycle Test
Table 5.12-12	Parameter and Propane Gain Checks
Table 5.12-13	Diagnosis and Maintenance of Repaired Vehicles

Table 5.12-13 provided the diagnosis and repair data for the vehicles requiring maintenance. Comments are provided relative to the effectiveness of the repairs as reflected by the FTP emission results. One additional vehicle (EPA No. 13330) which did not fail the criteria described in 5.12.4.2 above, but did have an EGR vacuum hose disconnected, was repaired and retested. The data for the retest results is included in the tables.

5.12.5.2 Various Fuels and Malperformance Conditions

The four vehicles selected were a 1.6 liter Escort (EPA No. 11633), 3.3 liter Fairmont (EPA No. 13347), 4.2 liter Fairmont (EPA No. 14203), and 5.0 liter Thunderbird (EPA No. 15003). The vehicle identification information for these vehicles is shown on Table 5.12-1.

The results of the analysis of the 25 unleaded commercial fuels tested at a local laboratory are provided on Table 5.12-14. The commercial fuels selected were Rocket (item number 14 on table) for the high density fuel and Exxon (item number 8) for the low density fuel.

The test results for each vehicle are provided on Tables 5.12-15 through Table 5.12-23. The contents of the tables are as follows:

Table 5.12-15	Two-Mode & 50 MPH Cruise Test
Table 5.12-16	Four-Mode Test
Table 5.12-17	Second Four-Mode Test
Table 5.12-18	Four-Mode Test - Spark Plug Disabled
Table 5.12-19	Modified Idle Test
Table 5.12-20	FTP Bag Set Data
Table 5.12-21	FTP & HFET
Table 5.12-22	New York City Driving Cycle Test
Table 5.12-23	Before Catalyst (engine-out) Measurements

5.12.5.3 Legends for Tables

The legends for the tables are as follows:

EPA NO.	-	Identification Number (1st digit represents vehicle model year)
S	-	Test Sequence (1=Initial; 2,3, or 4=After Repair)

Legend for Tables
5.12-3 thru 5.12-8 and 5.12-15 thru 5.12-19

1ST	-	Initial Idle Test
2500	-	High Idle Test
2ND	-	Second Idle Test
HC	-	Hydrocarbons in ppm (measurements are in hexane in all readings except for "LAB" readings which are in total hydrocarbons
CO	-	Carbon Monoxide in percent
NOx	-	Oxides of Nitrogen in ppm
RPM	-	Engine Idle Speed
LAB	-	Laboratory Analysis
GARAGE	-	EPA-75 Garage Analyzer
STA	-	Status (the three numbers represent the DEQ Pass/Fail status for HC, CO and RPM respectively. 1=Pass, 2=Fail)

Legend for Tables 5.12-9, 5.12-10, 5.12-11, 5.12-21 and 5.12-22

ODOM	-	Odometer reading
IW	-	Inertia Weight settings
AHP	-	Actual Horsepower settings
HC	-	Hydrocarbon Emissions in grams per mile
CO	-	Carbon Monoxide Emissions in grams per mile
CO_2	-	Carbon Dioxide Emissions in grams per mile
NOx	-	Oxides of Nitrogen (uncorrected) Emissions in grams per mile
NOxC	-	Oxides of Nitrogen Emissions corrected for humidity in grams per mile
MPG	-	Miles per gallon calculated by the Carbon Balance Method

Legend for Table 5.12-12

MECH ADV	-	Mechanical Advance
TOTAL ADV	-	Total Advance
GAIN CHECKS	-	Propane Gain Checks
SPEC	-	Specification
MEAS	-	Measured Value
N/A	-	Not Applicable
DEC	-	Idle Speed Decreased
NEU	-	Neutral
DR	-	Drive

Legend for Table 5.12-13

INITIAL DIAGNOSIS	-	Problems found during initial Diagnostic Inspection
FAILURE MODE	-	Test in which EPA limit criteria were exceeded
REPAIRS	-	Actual repairs performed
COMMENTS	-	General comments relative to the effectiveness of the repairs as reflected by the FTP emission results

Legend for Table 5.12-20

HC	-	Hydrocarbon Emissions in grams per test phase
CO	-	Carbon Monoxide Emissions in grams per test phase
CO_2	-	Carbon Dioxide Emissions in grams per test phase
NOx	-	Oxides of Nitrogen Emissions corrected for humidity in grams per test phase

Legend for Table 5.12-23

HC	-	Hydrocarbons in ppm hexane
CO	-	Carbon Monoxide in Percent

TABLE 5.12-3 DEQ & HTS IDLE TEST

		DEQ IDLE TEST									HTS IDLE TEST							
		HC			CO			RPM			HC			CO			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
11601	1	40	40	40	.0	.0	.0	950	950	111	80	60	50	.0	.0	.0	950	920
11602	1	25	70	30	.0	.0	.0	800	800	111	50	30	30	.0	.0	.0	900	950
11603	1	15	35	15	.0	.0	.0	1100	1100	111	50	30	30	.0	.0	.0	1030	1100
11604	1	35	45	30	.0	.0	.0	1100	1100	111	20	10	30	.0	.0	.0	980	1010
11605	1	50	55	60	.0	.1	.0	850	850	111	50	20	40	.0	.0	.0	870	890
11606	1	35	30	40	.0	.0	.0	850	850	111	50	30	40	.0	.0	.0	820	830
11607	1	15	55	20	.0	.3	.0	1050	1050	111	30	50	10	.0	.0	.0	1110	1080
11608	1	145	100	80	.0	.0	.0	1100	1100	111	40	40	30	.0	.0	.0	1130	1190
11609	1	10	60	10	.0	.7	.0	1200	1300	112	20	50	20	.0	.1	.0	1390	1400
11610	1	30	65	60	.0	.8	.0	850	850	111	40	30	50	.0	.1	.0	850	900
11610	2	145	105	185	.0	.3	.0	800	800	111	60	50	20	.0	.1	.0	910	900
11611	1	20	20	20	.0	.0	.0	1150	1250	111	50	30	20	.0	.0	.0	1060	1100
11612	1	125	85	75	.0	.0	.0	1750	1800	112	20	20	20	.0	.0	.0	1560	1550
11613	1	45	20	45	.1	.1	.1	950	950	111	90	20	50	.0	.0	.0	940	990
11614	1	40	50	45	.0	.1	.0	850	850	111	70	30	90	.0	.0	.0	810	840
11615	1	15	135	20	.0	.3	.0	1350	1350	112	20	20	20	.0	.0	.0	1460	1510
11616	1	65	45	65	.0	.0	.0	1000	1000	111	50	50	30	.0	.1	.0	1090	1130
11616	2	20	35	30	.0	.0	.0	850	850	111	30	40	20	.0	.0	.0	930	990
11617	1	35	65	30	.0	.1	.0	1000	1100	111	30	50	20	.0	.0	.0	1050	1070
11618	1	20	30	20	.0	.0	.0	1050	1050	111	40	30	20	.0	.0	.0	1020	1050
11619	1	15	30	20	.1	.0	.0	1100	1100	111	40	30	20	.0	.0	.0	1090	1110
11620	1	35	95	30	.0	1.9	.0	1050	1050	111	30	20	20	.0	.0	.0	1030	1080
11620	2	15	25	15	.1	.0	.0	900	900	111	10	10	10	.0	.0	.0	900	970
11621	1	15	20	20	.0	.0	.0	1050	1300	112	20	50	20	.0	.0	.0	1330	1250
11622	1	25	65	30	.0	.1	.0	900	900	111	70	30	30	.0	.0	.0	860	930
11623	1	15	55	25	.0	.0	.0	850	850	111	60	30	20	.0	.0	.0	770	850
11624	1	20	205	25	.0	.1	.0	800	800	111	20	50	20	.0	.1	.0	810	810
11625	1	30	55	25	.0	.0	.0	800	800	111	40	30	40	.0	.0	.0	730	710
11626	1	20	30	25	.0	.0	.0	950	950	111	40	30	10	.0	.0	.0	900	940
11627	1	25	35	30	.0	.0	.0	1050	1050	111	20	30	30	.0	.0	.0	1010	1040

TABLE 5.12-3 DEQ & HTS IDLE TEST (CONT'D)

		DEQ IDLE TEST									HTS IDLE TEST							
		HC			CO			RPM			HC			CO			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
11628	1	30	35	35	.0	.0	.0	900	900	111	50	50	30	.0	.1	.0	870	910
11629	1	15	40	15	.0	.1	.0	1600	1600	112	20	30	20	.0	.0	.0	1540	1550
11630	1	15	30	20	.1	.1	.1	950	950	111	30	40	20	.0	.0	.0	1000	980
11631	1	25	30	25	.0	.0	.0	1300	1350	112	10	20	10	.0	.0	.0	1330	1290
11632	1	30	430	30	.0	2.2	.0	850	850	111	40	50	30	.0	.2	.0	900	950
11633	1	35	30	30	.0	.0	.0	900	900	111	20	10	20	.0	.0	.0	920	940
11634	1	15	65	20	.1	.3	.1	800	800	111	20	40	20	.0	.0	.0	1250	1220
11634	2	30	135	30	.6	.8	.6	850	850	111	20	30	10	.0	.0	.0	1030	1010
11635	1	15	25	15	.0	.1	.0	950	950	111	20	20	20	.0	.0	.0	970	1040
11635	2										30	20	30	.0	.0	.0	870	800
11636	1	15	30	35	.0	.0	.0	1200	1100	111	20	20	20	.0	.0	.0	1160	1190
11637	1	15	90	20	.0	.2	.0	900	900	111	50	30	30	.0	.0	.0	890	880
11638	1	25	45	35	.0	.0	.0	1200	1200	112	20	30	20	.0	.0	.0	1010	1070
11639	1	20	30	20	.0	.0	.0	1050	1050	111	20	20	20	.0	.0	.0	1010	1030
11639	2	10	15	10	.0	.0	.0	850	850	111	10	20	10	.0	.0	.0	910	950
11640	1	15	45	20	.0	.1	.0	1000	1000	111	20	40	20	.0	.1	.0	1080	1110
11641	1	30	35	25	.0	.0	.0	1000	1000	111	50	20	30	.0	.0	.0	920	930
11642	1	25	65	40	.0	.1	.0	1000	1000	111	20	40	30	.0	.0	.0	920	940
11643	1	20	10	20	.0	.0	.0	1100	1100	111	20	20	10	.0	.0	.0	1130	1180
11644	1	15	20	20	.0	.0	.0	1300	1300	112	10	10	10	.0	.0	.0	1220	1270
11645	1	30	175	25	.0	.0	.0	850	850	111	40	20	10	.0	.0	.0	910	920
11646	1	20	35	25	.0	.0	.0	850	850	111	40	20	20	.0	.0	.0	790	810
11647	1	25	50	15	.0	.1	.0	1050	1050	111	20	50	20	.0	.1	.0	1060	1080
11648	1	20	90	30	.0	.1	.0	900	900	111	10	20	10	.0	.0	.0	870	930
11649	1	25	50	25	.0	.4	.0	1200	1200	112	30	20	20	.0	.0	.0	1310	1310
11649	2										40	30	20	.0	.0	.0	930	970
11650	1	15	20	25	.0	.0	.0	950	950	111	30	10	20	.0	.0	.0	860	880
13301	1	345	90	45	2.2	.1	.0	950	950	111	30	20	20	.0	.0	.0	950	940
13302	1	20	20	15	.0	.0	.0	1100	1100	111	20	20	20	.0	.0	.0	1030	1040
13303	1	25	25	25	.0	.0	.0	900	900	111	20	20	10	.0	.0	.0	900	880
13304	1	10	20	15	.0	.0	.0	1100	1150	112	20	20	10	.0	.0	.0	1130	1130

TABLE 5.12-3 DEQ & HTS IDLE TEST (CONT'D)

		DEQ IDLE TEST									HTS IDLE TEST							
		HC			CO			RPM			HC			CO			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
13305	1	20	25	20	.0	.0	.0	1050	1050	111	20	20	20	.0	.0	.0	930	940
13306	1	10	20	15	.0	.0	.0	1000	1000	111	20	20	20	.0	.0	.0	1010	1010
13307	1	5	5	5	.1	.0	.0			11	20	10	10	.0	.0	.0	1020	1020
13308	1	15	20	15	.0	.0	.0	800	800	111	10	10	10	.0	.0	.0	780	780
13309	1	15	15	15	.0	.0	.0	850	850	111	10	10	10	.0	.0	.0	940	930
13310	1	10	15	10	.0	.0	.0	850	850	111	20	20	20	.0	.0	.0	820	840
13311	1	10	15	10	.0	.0	.0	975	975	111	20	20	10	.0	.0	.0	940	940
13312	1	30	15	10	.0	.0	.0	1000	1000	111	10	30	10	.0	.0	.0	940	970
13313	1	10	10	10	.0	.0	.0	900	900	111	10	10	10	.0	.0	.0	880	900
13314	1	15	20	15	.0	.0	.0	1075	1075	111	20	30	10	.0	.0	.0	1070	1060
13315	1	125	45	20	.0	.0	.0	900	900	111	50	40	20	.0	.0	.0	930	930
13316	1	20	20	20	.0	.0	.0	1100	1100	111	10	20	50	.0	.0	.0	1030	1040
13317	1	30	20	35	.0	.0	.0	950	950	111	30	20	20	.0	.0	.0	930	920
13318	1	5	10	5	.0	.0	.0	900	900	111	10	10	10	.0	.0	.0	850	870
13319	1	15	30	20	.0	.0	.0	900	900	111	10	10	10	.0	.0	.0	920	850
13320	1	10	15	15	.0	.0	.0	900	900	111	20	20	10	.0	.0	.0	870	890
13321	1	10	15	15	.0	.0	.0	1050	1050	111	10	10	0	.0	.0	.0	970	970
13322	1	15	25	15	.0	.0	.0	1400	1400	112	20	20	20	.0	.0	.0	1340	1320
13323	1	25	20	25	.0	.0	.0	1400	1400	111	30	40	20	.0	.0	.0	1370	1370
13324	1	20	15	15	.0	.0	.0	1000	1000	111	10	10	10	.0	.0	.0	1000	1000
13325	1	5	5	0	.0	.0	.0	800	800	111	10	20	10	.0	.0	.0	760	780
13326	1	10	10	10	.0	.0	.0	1000	1000	111	30	10	20	.0	.0	.0	1030	1060
13327	1	10	10	10	.0	.0	.0	950	1000	111	20	20	20	.0	.0	.0	930	950
13328	1	360	85	35	3.4	.0	.0	950	950	111	10	10	10	.0	.0	.0	910	910
13329	1	5	15	10	.0	.0	.0	1100	1100	111	20	30	10	.0	.0	.0	1030	1030
13330	1	5	5	5	.0	.0	.0	800	800	111	20	10	10	.0	.0	.0	810	840
13330	2	25	20	25	.0	.0	.0			11	10	10	20	.0	.0	.0	900	880
13331	1	10	15	10	.0	.0	.0	900	900	111	20	20	10	.0	.0	.0	870	900
13332	1	15	20	20	.0	.0	.0	1100	1100	111	10	10	10	.0	.0	.0	1140	1130
13333	1	15	30	20	.0	.0	.0	850	850	111	20	10	0	.0	.0	.0	860	850
13334	1	15	20	10	.0	.0	.0	900	900	111	20	10	10	.0	.0	.0	910	900
13335	1	10	15	15	.0	.0	.0	900	900	111	10	20	10	.0	.0	.0	880	910
13336	1	5	5	10	.0	.0	.0	700	700	111	10	10	10	.0	.0	.0	720	710

TABLE 5.12-3 DEQ & HTS IDLE TEST (CONT'D)

		DEQ IDLE TEST									HTS IDLE TEST							
		HC			CO			RPM			HC			CO			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
13337	1	20	30	20	.0	.0	.0	950	950	111	10	10	0	.0	.0	.0	940	950
13338	1	5	10	10	.0	.0	.0	1000	1000	111	10	10	10	.0	.0	.0	990	980
13339	1	10	15	20	.0	.0	.0	800	800	111	20	20	20	.0	.0	.0	850	840
13340	1	10	10	5	.0	.0	.0	850	850	111	30	20	20	.0	.0	.0	860	850
13341	1	0	10	10	.0	.0	.0	1000	1000	111	20	20	20	.0	.0	.0	980	990
13342	1	10	15	15	.0	.0	.0	900	900	111	20	20	20	.0	.0	.0	890	890
13343	1	15	20	20	.0	.0	.0	900	900	111	20	20	20	.0	.0	.0	930	940
13344	1	10	15	15	.0	.0	.0	700	700	111	10	10	10	.0	.0	.0	740	730
13345	1	15	20	15	.0	.0	.0	700	700	111	20	10	10	.0	.0	.0	660	650
13346	1	10	30	15	.0	.0	.0	950	950	111	20	20	20	.0	.0	.0	990	980
13347	1	15	25	20	.0	.0	.0	950	950	111	20	10	20	.0	.0	.0	910	920
14201	1	10	15	15	.0	.1	.0	900	900	111	20	30	10	.0	.0	.0	880	1020
14202	1	25	30	20	.0	.0	.0	850	850	111	30	20	20	.0	.0	.0	840	960
14203	1	15	20	15	.0	.0	.0	1000	1000	111	10	20	10	.0	.0	.0	970	990
14203	2	20	30	25	.0	.0	.0	750	750	111	40	30	30	.0	.0	.0	820	840
14203	3										20	30	20	.0	.0	.0	820	830
14203	4	10	25	15	.0	.0	.0	1000	1000	111	10	20	10	.0	.0	.0	970	990
14204	1	5	15	5	.0	.0	.0	800	800	111	10	10	10	.0	.0	.0	840	840
14205	1	10	20	15	.0	.0	.0	1000	1100	111	10	10	10	.0	.0	.0	1010	1030
14206	1	30	10	10	.0	.0	.0	750	750	111	20	10	10	.0	.0	.0	690	700
14207	1	15	20	20	.0	.0	.0	850	850	111	20	10	10	.0	.0	.0	900	910
14208	1	10	20	10	.0	.0	.0	1000	1000	111	10	10	10	.0	.0	.0	850	880
14209	1	15	35	20	.0	.0	.0	850	850	111	20	20	20	.0	.0	.0	840	880
14210	1	15	45	20	.0	.0	.0	950	950	111	30	20	10	.0	.0	.0	900	920
14211	1	15	15	20	.0	.0	.0	1050	1050	111	30	20	20	.0	.0	.0	1030	1040
14212	1	15	20	20	.0	.0	.0	1000	1000	111	10	10	10	.0	.0	.0	960	1020
15001	1	10	25	15	.0	.0	.0	800	800	111	20	20	10	.0	.0	.0	750	750
15002	1	40	30	30	.0	.0	.0	800	800	111	10	10	10	.0	.0	.0	820	820
15003	1	25	30	30	.0	.0	.0	600	600	111	10	10	10	.0	.0	.0	570	570

TABLE 5.12-4 TWO MODE & 50 MPH CRUISE TESTS

	---TWO MODE (30MPH)--					---TWO MODE (IDLE)---					----50 MPH CRUISE----				
	-----LAB-----			GARAGE		-----LAB----			GARAGE		-----LAB-----			GARAGE	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
11601 1	241	.0	190	22	.0	51	.0	48	3	.0	189	.0	140	9	.0
11602 1	287	.0	133	22	.0	70	.0	40	0	.0	229	.0	183	5	.0
11603 1	137	.0	210	17	.0	36	.0	63	6	.0	198	.0	173	12	.0
11604 1	235	.0	175	25	.0	45	.0	45	4	.0	192	.0	183	12	.0
11605 1	311	.0	245	30	.0	57	.0	50	1	.0	220	.0	193	8	.0
11606 1	220	.0	168	25	.0	45	.0	53	4	.0	210	.0	193	14	.0
11607 1	195	.0	218	19	.0	54	.0	168	9	.0	180	.0	253	13	.0
11608 1	189	.0	163	18	.0	39	.0	60	4	.0	161	.0	150	11	.0
11609 1	106	.0	380	14	.0	94	.0	33	11	.0	223	.0	243	22	.0
11610 1	571	.3	165	45	.3	216	.0	78	20	.0	1596	1.2	243	87	1.1
11610 2	877	.1	358	68	.1	230	.0	55	21	.0	455	.1	175	35	.1
11611 1	115	.0	626	40	.0	33	.0	128	20	.0	91	.0	305	20	.0
11612 1	177	.0	153	50	.0	45	.0	80	20	.0	174	.0	85	40	.0
11613 1	287	.0	223	31	.0	125	.0	40	19	.0	201	.0	140	14	.0
11614 1	403	.0	185	37	.0	67	.0	48	5	.0	333	.0	150	24	.1
11615 1	149	.0	260	18	.0	73	.0	73	6	.0	183	.0	233	13	.0
11616 1	351	.0	215	36	.0	79	.0	68	11	.0	216	.1	108	16	.1
11616 2	265	.1	128	27	.1	88	.0	40	9	.0	351	.1	95	17	.1
11617 1	278	.0	218	30	.0	45	.0	75	7	.0	155	.0	175	11	.0
11618 1	265	.0	173	30	.0	45	.0	53	8	.0	174	.0	103	13	.0
11619 1	324	.0	130	41	.0	63	.0	48	12	.0	250	.0	180	19	.0
11620 1	183	.0	143	17	.0	1113	.5	15	69	.5	183	.0	163	14	.0
11620 2	220	.0	123	25	.0	464	.1	5	38	.1	238	.0	158	24	.0
11620 3	235	.0	133	27	.0	669	.3	8	49	.2	207	.0	155	20	.0
11621 1	158	.0	300	24	.0	45	.0	125	12	.0	216	.0	233	19	.0
11622 1	204	.0	140	28	.0	39	.0	48	10	.0	167	.0	110	14	.0
11623 1	210	.0	158	25	.0	51	.0	43	8	.0	299	.0	195	32	.0
11624 1	293	.0	150	27	.0	57	.0	43	6	.0	174	.0	105	10	.0
11625 1	146	.0	135	15	.0	54	.0	33	8	.0	192	.0	155	12	.0
11626 1	131	.0	325	15	.0	51	.0	43	9	.0	195	.0	130	19	.0
11627 1	281	.0	183	29	.0	51	.0	55	8	.0	125	.2	75	8	.1

TABLE 5.12-4 TWO MODE & 50 MPH CRUISE TESTS (CONT'D)

EPA NO S	TWO MODE (30MPH) LAB HC	LAB CO	LAB NOX	GARAGE HC	GARAGE CO	TWO MODE (IDLE) LAB HC	LAB CO	LAB NOX	GARAGE HC	GARAGE CO	50 MPH CRUISE LAB HC	LAB CO	LAB NOX	GARAGE HC	GARAGE CO
11628 1	216	.0	213	27	.0	85	.0	48	11	.0	226	.0	188	21	.0
11629 1	272	.0	180	29	.0	51	.0	45	8	.0	216	.0	183	22	.0
11630 1	149	.0	175	17	.0	51	.0	53	9	.0	223	.0	205	22	.0
11631 1	174	.0	218	15	.0	27	.0	155	3	.0	171	.0	168	11	.0
11632 1	342	.0	188	40	.0	54	.0	55	11	.0	180	.0	135	15	.0
11633 1	82	.0	105	4	.0	30	.0	50	0	.0	137	.0	153	6	.0
11634 1	874	5.6	18	41	5.3	82	.0	58	11	.0	149	.0	158	11	.0
11634 2	30	.0	159			7	.0	107			24	.0	111		
11635 1	369	.0	205	33	.0	128	.0	45	12	.0	4376	.0	168	300	.0
11635 2	342	.0	165	33	.0	85	.0	35	12	.0	424	.1	103	34	.1
11636 1	296	.0	175	33	.0	88	.0	50	9	.0	296	.0	150	17	.0
11637 1	180	.0	175	21	.0	36	.0	55	7	.0	210	.0	240	17	.0
11638 1	290	.0	183	27	.0	54	.0	58	5	.0	174	.0	113	13	.0
11639 1	241	.0	220	24	.0	33	.0	58	4	.0	216	.0	193	16	.0
11639 2	275	.0	183	31	.0	60	.0	50	11	.0	186	.1	115	16	.1
11640 1	109	.0	258	15	.0	33	.0	65	8	.0	143	.0	158	13	.0
11641 1	220	.0	135	27	.0	45	.0	43	9	.0	164	.0	113	13	.0
11642 1	256	.0	150	29	.0	57	.0	35	10	.0	311	.0	148	31	.0
11643 1	247	.0	210	33	.0	210	.0	28	20	.0	204	.0	165	19	.0
11644 1	91	.0	110	14	.0	8	.0	28	8	.0	109	.0	78	10	.0
11645 1	287	.0	155	28	.0	241	.0	25	21	.0	272	.0	183	23	.0
11646 1	210	.0	113	15	.0	30	.0	68	4	.0	158	.1	243	9	.1
11647 1	369	.2	503	31	.1	339	.1	58	23	.0	223	.1	105	11	.1
11648 1	63	.3	25	8	.4	54	.0	30	8	.0	229	.0	133	19	.0
11649 1	694	3.9	20	27	3.6	473	.0	23	21	.0	174	.1	85	10	.1
11649 2	94	.0	175	13	.0	39	.0	85	9	.0	91	.0	55	7	.0
11650 1	88	.0	210	8	.0	24	.0	58	3	.0	250	.0	135	18	.0
13301 1	57	.0	163	6	.0	76	.0	70	6	.0	24	.0	250	0	.0
13302 1	51	.0	183	5	.0	76	.0	60	4	.0	8	.0	240	0	.0
13303 1	57	.0	103	1	.0	36	.0	75	0	.0	189	.0	23	8	.0
13304 1	57	.0	305	7	.0	76	.0	105	5	.0	54	.0	388	6	.0

TABLE 5.12-4 TWO MODE & 50 MPH CRUISE TESTS (CONT'D)

	---TWO MODE (30MPH)--					---TWO MODE (IDLE)---					----50 MPH CRUISE----				
	-----LAB-----			GARAGE		-----LAB----			GARAGE		-----LAB-----			GARAGE	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
13305 1	54	.0	100	3	.0	27	.0	50	2	.0	30	.0	100	0	.0
13306 1	60	.0	115	7	.0	88	.0	43	7	.0	36	.0	18	3	.0
13307 1	51	.0	243	8	.0	57	.0	35	6	.0	54	.0	320	2	.0
13308 1	76	.0	135	6	.0	70	.0	55	3	.0	51	.0	270	2	.0
13309 1	54	.0	133	5	.0	51	.0	50	5	.0	97	.0	15	1	.0
13310 1	63	.0	118	5	.0	88	.0	25	6	.0	33	.0	83	0	.0
13311 1	76	.0	150	9	.0	97	.0	33	9	.0	30	.0	265	2	.0
13312 1	63	.0	175	8	.0	94	.0	58	8	.0	27	.0	100	1	.0
13313 1	48	.0	180	7	.0	76	.0	40	6	.0	39	.0	150	2	.0
13314 1	70	.0	160	10	.0	85	.0	58	8	.0	24	.0	193	5	.0
13315 1	97	.0	138	8	.0	94	.0	75	5	.0	210	.0	70	8	.0
13316 1	60	.0	168	4	.0	79	.0	50	3	.0	36	.0	100	0	.0
13317 1	33	.0	43	2	.0	82	.0	5	4	.0	18	.0	258	0	.0
13318 1	48	.0	40	7	.0	48	.0	48	5	.0	33	.0	8	2	.0
13319 1	85	.0	148	8	.0	119	.0	70	7	.0	57	.0	200	0	.0
13320 1	54	.0	158	6	.0	67	.0	68	6	.0	24	.0	200	0	.0
13321 1	27	.0	23	3	.0	11	.0	28	2	.0	140	.0	48	3	.0
13322 1	45	.0	155	8	.0	82	.0	100	9	.0	15	.0	180	0	.0
13323 1	247	.0	153	20	.0	155	.0	50	8	.0	216	.0	150	12	.0
13324 1	54	.0	155	2	.0	27	.0	5	0	.0	18	.0	268	1	.0
13325 1	94	.0	105	12	.0	85	.0	55	8	.0	11	.0	145	0	.0
13326 1	119	.0	431	15	.0	137	.0	38	10	.0	82	.0	205	6	.0
13327 1	51	.0	100	6	.0	57	.0	30	5	.0	27	.0	30	0	.0
13328 1	76	.0	946	13	.0	180	.0	35	14	.0	24	.0	808	4	.0
13329 1	67	.0	173	8	.0	149	.0	20	11	.0	33	.0	325	1	.0
13330 1	33	.0	581	8	.0	60	.0	80	3	.0	119	.0	33	1	.0
13330 2	79	.0	1201	14	.0	158	.0	50	14	.0	33	.0	58	1	.0
13331 1	60	.0	195	9	.0	76	.0	73	7	.0	5	.0	143	3	.0
13332 1	76	.0	546	6	.0	67	.0	80	1	.0	36	.0	283	3	.0
13333 1	67	.0	170	9	.0	27	.0	70	5	.0	15	.0	330	3	.0
13334 1	79	.0	128	6	.0	94	.0	33	5	.0	33	.0	215	2	.0
13335 1	54	.0	200	8	.0	82	.0	45	8	.0	8	.0	230	1	.0
13336 1	76	.0	551	10	.0	115	.0	55	7	.0	70	.0	260	0	.0

TABLE 5.12-4 TWO MODE & 50 MPH CRUISE TESTS (CONT'D)

EPA NO S	---TWO MODE (30MPH)--- -----LAB----- HC	CO	NOX	GARAGE HC	CO	---TWO MODE (IDLE)--- -----LAB---- HC	CO	NOX	GARAGE HC	CO	----50 MPH CRUISE---- -----LAB----- HC	CO	NOX	GARAGE HC	CO
13337 1	85	.0	120	2	.0	88	.0	68	1	.0	33	.0	150	0	.0
13338 1	70	.0	155	8	.0	94	.0	70	7	.0	27	.0	130	0	.0
13339 1	137	.0	606	18	.0	76	.0	63	8	.0	109	.0	275	4	.0
13340 1	33	.0	33	5	.0	21	.0	20	4	.0	140	.0	30	5	.0
13341 1	63	.0	150	8	.0	60	.0	70	7	.0	11	.0	170	0	.0
13342 1	60	.0	180	9	.0	94	.0	60	9	.0	48	.0	333	2	.0
13343 1	88	.0	676	15	.0	119	.0	73	10	.0	57	.0	343	7	.0
13344 1	70	.0	283	9	.0	39	.0	43	6	.0	36	.0	218	1	.0
13345 1	70	.0	230	10	.0	67	.0	50	8	.0	63	.0	183	5	.0
13346 1	54	.0	205	10	.0	97	.0	55	10	.0	15	.0	178	1	.0
13347 1	91	.0	170	9	.0	143	.0	60	8	.0	48	.0	230	1	.0
14201 1	45	.0	258	10	.0	51	.0	125	8	.0	60	.0	400	7	.0
14202 1	79	.0	283	11	.0	39	.0	90	6	.0	67	.0	355	7	.0
14203 1	79	.0	200	10	.0	36	.0	78	6	.0	88	.0	300	5	.0
14203 2	88	.0	230	9	.0	54	.0	55	5	.0	119	.0	280	6	.0
14203 3	79	.0	218	11	.0	143	.0	90	10	.0	189	.0	268	31	.0
14203 4	97	.0	275	11	.0	51	.0	70	8	.0	91	.0	283	9	.0
14204 1	51	.0	333	10	.0	36	.0	80	7	.0	67	.0	380	9	.0
14205 1	57	.0	408	12	.0	33	.0	105	6	.0	63	.0	496	8	.0
14206 1	60	.0	165	7	.0	201	.0	43	10	.0	57	.0	328	4	.0
14207 1	109	.0	215	14	.0	60	.0	53	9	.0	63	.0	355	6	.0
14208 1	54	.0	233	6	.0	48	.0	118	4	.0	33	.0	355	9	.0
14209 1	63	.0	325	14	.0	100	.0	148	12	.0	79	.0	263	9	.0
14210 1	57	.0	310	10	.0	48	.0	105	6	.0	97	.0	405	12	.0
14211 1	48	.0	368	12	.0	24	.0	175	6	.0	33	.0	541	10	.0
14212 1	51	.0	320	10	.0	33	.0	115	7	.0	57	.0	370	8	.0
15001 1	63	.0	333	13	.0	33	.0	75	8	.0	63	.0	360	10	.0
15002 1	48	.0	451	11	.0	45	.0	130	8	.0	51	.0	581	8	.0
15003 1	63	.0	290	11	.0	39	.0	80	7	.0	57	.0	310	6	.0

TABLE 5.12-5 FOUR MODE TEST

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
11601	1	171	.0	48	12	.0	60	.0	60	1	.0	76	.0	33	6	.0					
11602	1	229	.0	33	19	.0	106	.0	60	2	.0	109	.0	33	6	.0					
11603	1	106	.0	60	9	.0	76	.0	35	4	.0	63	.0	50	6	.0					
11604	1	125	.0	53	8	.0	54	.0	48	3	.0	51	.0	40	5	.0					
11605	1	189	.0	50	15	.0	164	.0	25	11	.0	67	.0	33	1	.0					
11606	1	146	.0	55	10	.0	91	.0	60	8	.0	57	.0	40	5	.0					
11607	1	112	.0	95	4	.0	125	.0	58	6	.0	51	.0	60	3	.0	36	.0	165	0	.0
11608	1	54	.0	58	3	.0	100	.0	25	5	.0	36	.0	50	2	.0					
11609	1	70	.0	55	5	.0	63	.0	90	6	.0	45	.0	40	6	.0					
11610	1	923	.0	43	111	.0	271	.1	140	14	.1	342	.0	58	39	.0					
11610	2	648	.1	35	38	.1	538	.2	150	24	.2	314	.0	38	26	.0					
11611	1	125	.0	118	30	.0	115	.0	48	30	.0	33	.0	78	20	.0	30	.0	275	20	.0
11612	1	82	.0	70	20	.0	67	.0	50	30	.0	51	.0	70	30	.0					
11613	1	486	.0	33	72	.0	308	.0	33	25	.0	201	.0	30	27	.0					
11614	1	424	.0	50	43	.0	88	.0	73	3	.0	128	.0	40	11	.0					
11615	1	125	.0	118	5	.0	210	.0	45	18	.0	63	.0	85	5	.0	54	.0	220	5	.0
11616	1	372	.0	63	31	.0	363	.0	53	30	.0	152	.0	53	17	.0					
11616	2	122	.0	15	8	.0	125	.0	28	10	.0	60	.0	28	8	.0					
11617	1	76	.0	55	10	.0	119	.0	28	12	.0	45	.0	43	8	.0					
11618	1	134	.0	65	12	.0	112	.0	20	10	.0	45	.0	40	6	.0					
11619	1	82	.0	50	10	.0	201	.0	43	19	.0	76	.0	33	14	.0					
11620	1	342	.0	18	20	.0	293	.1	75	21	.1	287	.1	35	16	.1					
11620	2	149	.0	15	10	.0	272	.1	15	17	.1	137	.0	25	10	.0					
11620	3	149	.0	8	7	.0	250	.1	43	13	.0	115	.0	25	9	.0					
11621	1	106	.0	58	11	.0	79	.0	70	7	.0	57	.0	70	9	.0					
11622	1	216	.0	43	29	.0	109	.0	30	11	.0	76	.0	33	12	.0					
11623	1	143	.0	25	15	.0	57	.0	60	5	.0	45	.0	30	6	.0					
11624	1	220	.0	28	19	.0	167	.0	23	9	.0	106	.0	23	10	.0					
11625	1	339	.0	25	42	.0	88	.0	48	6	.0	94	.0	25	11	.0					
11626	1	158	.0	30	17	.0	76	.0	130	7	.0	180	.0	28	25	.0					
11627	1	119	.0	43	12	.0	140	.0	25	10	.0	76	.0	33	10	.0					

TABLE 5.12-5 FOUR MODE TEST (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
11628	1	213	.0	33	22	.0	140	.0	43	11	.0	115	.0	33	13	.0					
11629	1	57	.0	48	4	.0	57	.0	50	4	.0	39	.0	48	4	.0					
11630	1	241	.0	40	28	.0	76	.0	70	6	.0	94	.0	38	13	.0					
11631	1	76	.0	160	3	.0	195	.2	28	20	.4	51	.0	100	7	.0	48	.0	375	4	.0
11632	1	158	.0	50	18	.0	112	.0	35	9	.0	76	.0	43	11	.0					
11633	1	60	.0	53	0	.0	134	.0	28	4	.0	33	.0	35	0	.0					
11634	1	63	.0	70	4	.0	424	2.3	10	25	2.3	45	.0	38	7	.0	48	.0	343	6	.0
11634	2	95	.1	63			100	.7	39			13	.0	43			10	.0	163		
11635	1	997	.0	40	78	.0	645	.0	43	54	.0	372	.0	30	38	.0					
11635	2	339	.0	30	39	.0	296	.0	25	24	.0	140	.0	25	16	.0					
11636	1	2089	1.0	28	104	1.0	281	.0	30	23	.0	128	.0	40	11	.0					
11637	1	143	.0	40	15	.0	241	.0	30	22	.0	67	.0	35	9	.0					
11638	1	1581	.7	15	76	.7	333	.0	35	16	.0	85	.0	53	3	.0					
11639	1	158	.0	55	12	.0	143	.0	40	10	.0	60	.0	45	5	.0					
11639	2	394	.0	25	36	.0	324	.0	28	25	.0	91	.0	28	10	.0					
11640	1	91	.0	55	9	.0	115	.0	58	10	.0	36	.0	50	5	.0					
11641	1	223	.0	30	30	.0	186	.0	30	19	.0	79	.0	28	10	.0					
11642	1	149	.0	50	20	.0	434	.0	33	38	.0	94	.0	30	12	.0					
11643	1	2872	.9	8	160	.9	822	.1	30	67	.3	229	.0	10	20	.0	122	.0	13	13	.0
11644	1	11	.0	20	3	.0	180	.0	20	13	.0	21	.0	20	6	.0					
11645	1	2973	1.6	40	163	1.6	290	.0	25	19	.0	305	.0	20	25	.0					
11646	1	155	.0	33	12	.0	418	.0	58	30	.0	76	.0	43	8	.0					
11647	1	3805	1.8	13	212	1.7	792	.1	63	52	.1	522	.0	33	43	.0	504	.0	23	51	.0
11648	1	183	.0	65	12	.0	186	.0	18	15	.0	73	.0	33	8	.0	54	.0	125	7	.0
11649	1	9999	8.7	20	533	8.4	9999	4.8	15	2067	4.4	1180	.1	23	72	.1	792	1.3	20	66	2.2
11649	2	146	.0	80	11	.0	213	.0	43	17	.0	54	.0	48	6	.0	57	.0	275	10	.0
11650	1	76	.0	43	3	.0	128	.0	53	14	.0	27	.0	38	4	.0					
13301	1	4958	1.7	20	306	1.8	281	.0	45	24	.0	125	.0	48	10	.0	119	.0	100	9	.0
13302	1	3624	1.2	5	223	1.3	220	.0	45	17	.0	88	.0	50	6	.0	88	.0	250	8	.0
13303	1	424	.0	5	21	.1	67	.0	28	0	.0	27	.0	35	0	.0	30	.0	195	0	.0
13304	1	2529	.6	53	144	.7	235	.0	48	10	.0	119	.0	70	3	.0	106	.0	355	5	.0

TABLE 5.12-5 FOUR MODE TEST (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
13305	1	4396	1.7	10	245	1.7	388	.0	40	20	.0	164	.0	35	8	.0	149	.0	78	8	.0
13306	1	5429	2.7	3	335	2.6	455	.0	23	30	.0	223	.0	28	17	.0	186	.0	143	15	.0
13307	1	5950	3.3	10	416	3.2	510	.0	50	28	.0	247	.0	28	14	.0	284	.0	18	20	.0
13308	1	1945	.7	3	133	.7	210	.0	40	10	.0	94	.0	30	2	.0	100	.0	48	3	.0
13309	1	730	.0	35	68	.0	119	.0	38	5	.0	36	.0	45	1	.0	39	.0	38	2	.0
13310	1	5379	2.8	8	351	2.7	501	.0	45	23	.0	223	.0	28	11	.0	186	.0	8	10	.0
13311	1	6191	3.0	5	417	2.9	562	.0	45	33	.0	262	.0	30	19	.0	241	.0	15	19	.0
13312	1	5800	2.3	5	389	2.3	434	.0	43	25	.0	216	.0	33	13	.0	155	.0	38	11	.0
13313	1	5770	3.4	3	391	3.3	525	.0	45	35	.0	299	.0	28	20	.0	189	.0	15	15	.0
13314	1	1250	1.9	10	236	1.9	363	.0	48	22	.0	186	.0	40	10	.0	152	.0	245	11	.0
13315	1	4346	2.3	18	263	2.3	302	.0	50	14	.0	183	.0	50	7	.0	131	.0	65	5	.0
13316	1	3995	1.6	10	249	1.6	293	.0	40	15	.0	155	.0	35	6	.0	131	.0	93	6	.0
13317	1	6822	4.1	8	437	4.2	510	.0	35	30	.0	241	.0	8	12	.0	210	.0	8	10	.0
13318	1	5298	1.7	3	355	1.7	440	.0	30	29	.0	204	.0	30	13	.0	143	.0	25	10	.0
13319	1	4456	2.0	20	271	2.0	379	.0	45	21	.0	186	.0	35	8	.0	167	.0	55	7	.0
13320	1	308	.6	5	15	.6	97	.0	28	4	.0	45	.0	35	2	.0	63	.0	95	5	.0
13321	1	1630	.9	5	97	.9	128	.0	25	5	.0	57	.0	33	2	.0	36	.0	80	2	.0
13322	1	4627	2.4	8	275	2.4	339	.0	30	24	.0	180	.0	75	13	.0	97	.0	70	10	.0
13323	1	5359	5.1	23	279	5.0	516	.0	35	24	.0	290	.0	28	10	.0					
13324	1	3494	2.2	3	228	2.2	128	.0	33	10	.0	82	.0	25	7	.0	125	.0	5	7	.0
13325	1	2138	.8	0	155	.8	171	.0	38	15	.0	57	.0	25	9	.0	67	.0	50	9	.0
13326	1	7825	4.3	3	468	4.2	449	.0	65	41	.0	272	.0	28	23	.0					
13327	1	4837	1.6	3	292	1.6	220	.0	25	22	.0	122	.0	28	11	.0	119	.0	80	10	.0
13328	1	6321	3.2	25	402	3.1	446	.0	293	41	.0	195	.0	50	19	.0	232	.0	18	21	.0
13329	1	6010	1.9	20	385	1.9	324	.0	40	28	.0	155	.0	45	12	.0	109	.0	18	10	.0
13330	1	5098	2.9	5	292	2.9	232	.0	315	19	.0	143	.0	45	9	.0	73	.0	8	3	.0
13330	2	4727	3.2	18	269	3.2	259	.0	293	24	.0	180	.0	33	14	.0	91	.0	8	10	.0
13331	1	431	.7	0	21	.7	94	.0	35	5	.0	24	.0	28	4	.0	39	.0	65	5	.0
13332	1	639	.1	38	40	.3	119	.0	105	9	.0	91	.0	43	4	.0	91	.0	80	5	.0
13333	1	79	.0	80	2	.0	63	.0	55	4	.0	11	.0	53	3	.0	11	.0	308	9	.0
13334	1	5689	2.2	8	354	2.2	265	.0	43	20	.0	143	.0	33	9	.0	186	.0	33	12	.0
13335	1	379	.8	8	19	.7	94	.0	33	5	.0	30	.0	30	3	.0	70	.0	105	6	.0
13336	1	7504	4.3	15	489	4.2	308	.0	78	28	.0	192	.0	40	13	.0					

TABLE 5.12-5 FOUR MODE TEST (CONT'D)

			----IDLE NEUTRAL----				------2500 RPM-------				----IDLE NEUTRAL----				----IDLE IN GEAR---			
			----LAB----			GARAGE	----LAB----			GARAGE	----LAB----			GARAGE	----LAB----			GARAGE
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
13337	1	2505	.6	3	152	.6	235	.0	35	14	.0	76	.0	35	2	.0	94	.0	120	3	.0
13338	1	3895	1.9	18	227	1.8	213	.0	33	18	.0	97	.0	40	7	.0	91	.0	100	7	.0
13339	1	3855	.5	23	233	.5	210	.0	100	14	.0	94	.0	43	7	.0					
13340	1	6421	3.7	5	435	3.6	311	.0	43	29	.0	131	.0	30	13	.0	97	.0	15	10	.0
13341	1	7323	2.0	5	329	2.0	272	.0	40	28	.0	106	.0	43	11	.0	94	.0	180	10	.0
13342	1	5268	2.3	13	323	2.3	272	.0	50	25	.0	122	.0	38	10	.0	131	.0	75	10	.0
13343	1	6110	2.9	10	396	2.9	327	.0	75	26	.0	180	.0	30	13	.0					
13344	1	4797	2.3	5	342	2.3	216	.0	58	21	.0	76	.0	28	10	.0					
13345	1	6501	2.6	8	442	2.6	119	.0	50	40	.0	51	.0	30	15	.0					
13346	1	5148	1.6	3	323	1.6	293	.0	38	29	.0	100	.0	40	11	.0	60	.0	50	8	.0
13347	1	5359	2.8	23	309	2.7	247	.0	50	20	.0	140	.0	40	9	.0	119	.0	53	7	.0
14201	1	4226	2.2	5	236	2.2	363	.0	95	23	.0	180	.0	85	14	.0	171	.0	230	14	.0
14202	1	115	.0	60	5	.0	106	.0	80	8	.0	33	.0	83	2	.0	158	.0	95	8	.0
14203	1	3263	1.9	3	186	1.9	247	.0	58	15	.0	112	.0	75	8	.0	167	.0	205	11	.0
14203	2	4296	1.1	3	305	1.1	354	.0	53	21	.0	164	.0	50	9	.0	177	.0	95	10	.0
14203	3	4817	1.0	3	376	1.0	241	.0	55	28	.0	112	.0	48	13	.0	155	.0	80	13	.0
14203	4	5329	2.4	8	301	2.3	311	.0	60	28	.0	115	.0	58	11	.0	186	.0	85	13	.0
14204	1	1015	1.7	3	205	1.7	180	.0	80	18	.0	70	.0	75	10	.0	143	.0	168	12	.0
14205	1	4938	2.2	13	283	2.2	180	.0	100	18	.0	88	.0	90	8	.0	189	.0	218	12	.0
14206	1	6201	1.4	13	491	1.4	171	.0	18	19	.0	220	.0	35	11	.0	324	.0	43	13	.0
14207	1	4336	3.0	18	247	2.9	232	.0	73	24	.0	88	.0	55	8	.0	241	.0	73	20	.2
14208	1	2820	1.3	23	150	1.2	137	.0	83	11	.0	54	.0	95	2	.0	79	.0	175	4	.0
14209	1	2229	1.3	15	117	1.3	76	.0	90	11	.0	48	.0	65	10	.0	94	.0	205	12	.0
14210	1	4116	3.2	40	219	3.1	210	.0	90	18	.0	106	.0	75	10	.0	186	.0	133	12	.0
14211	1	3715	1.8	28	197	1.8	210	.0	85	21	.0	67	.0	155	10	.0	79	.0	328	10	.0
14212	1	3394	1.6	5	190	1.7	174	.0	75	18	.0	63	.0	105	8	.0	140	.0	245	12	.0
15001	1	2535	.2	10	189	.2	149	.0	90	18	.0	60	.0	70	10	.0	57	.0	98	10	.0
15002	1	3163	.5	25	194	.5	152	.0	85	15	.0	70	.0	93	8	.0	54	.0	200	8	.0
15003	1	975	.0	13	83	.0	76	.0	90	4	.0	42	.0	80	6	.0	42	.0	95	6	.0

TABLE 5.12-6 SECOND FOUR MODE TEST

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
11601	1	372	.0	28	48	.0	109	.0	53	11	.0	128	.0	33	14	.0					
11602	1	207	.0	28	19	.0	100	.0	60	2	.0	106	.0	38	6	.0					
11603	1	128	.0	48	22	.0	76	.0	53	9	.0	63	.0	53	11	.0					
11604	1	140	.0	25	22	.0	79	.0	70	9	.0	63	.0	35	9	.0					
11605	1	241	.0	30	30	.0	134	.0	25	9	.0	76	.0	40	5	.0					
11606	1	128	.0	33	18	.0	82	.0	105	9	.0	76	.0	43	10	.0					
11607	1	131	.0	80	7	.0	143	.0	73	9	.0	54	.0	65	4	.0	42	.0	193	0	.0
11608	1	63	.0	58	9	.0	109	.0	25	11	.0	36	.0	45	7	.0					
11609	1	82	.0	73	9	.0	63	.0	65	11	.0	45	.0	25	7	.0					
11610	1	853	.0	43	109	.0	250	.1	140	20	.0	372	.0	55	49	.0					
11610	2	577	.0	28	58	.0	626	.2	138	37	.2	372	.0	40	34	.0					
11611	1	220	.0	98	40	.0	155	.0	48	40	.0	39	.0	78	20	.0	33	.0	278	20	.0
11612	1	137	.0	68	40	.0	82	.0	40	30	.0	57	.0	65	20	.0					
11613	1	507	.0	25	74	.0	305	.0	43	32	.0	348	.0	28	50	.0					
11614	1	241	.0	33	31	.0	119	.0	55	12	.0	125	.0	35	16	.0					
11615	1	94	.0	80	10	.0	97	.0	35	16	.0	70	.0	90	8	.0	57	.0	270	8	.0
11616	1	221	.0	53	32	.0	281	.0	28	30	.0	131	.0	53	20	.0					
11616	2	232	.0	28	17	.0	281	.0	28	25	.0	94	.0	28	10	.0					
11617	1	140	.0	43	20	.0	103	.0	23	11	.0	60	.0	43	10	.0					
11618	1	189	.0	38	24	.0	119	.0	23	14	.0	54	.0	38	10	.0					
11619	1	149	.0	43	22	.0	109	.0	55	19	.0	82	.0	33	17	.0					
11620	1	1976	.8	5	120	.8	363	.1	55	26	.0	241	.1	18	16	.0					
11620	2	691	.0	3	62	.0	250	.0	75	22	.0	363	.1	10	33	.1					
11620	3	333	.0	5	32	.0	220	.0	108	18	.0	333	.1	18	28	.0					
11621	1	97	.0	58	17	.0	112	.0	60	19	.0	63	.0	68	14	.0					
11622	1	216	.0	30	35	.0	134	.0	33	21	.0	143	.0	35	24	.0					
11623	1	272	.0	25	41	.0	109	.0	58	14	.0	60	.0	33	12	.0					
11624	1	180	.0	25	25	.0	198	.0	30	16	.0	119	.0	25	18	.0					
11625	1	180	.0	25	29	.0	82	.0	58	11	.0	94	.0	25	17	.0					
11626	1	382	.0	28	58	.0	76	.0	115	13	.0	131	.0	30	23	.0					
11627	1	91	.0	33	14	.0	201	.0	23	21	.0	60	.0	38	12	.0					

TABLE 5.12-6 SECOND FOUR MODE TEST (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
11628	1	223	.0	30	31	.0	112	.0	50	21	.0	119	.0	30	18	.0					
11629	1	164	.0	33	22	.0	128	.0	33	13	.0	67	.0	48	10	.0					
11630	1	241	.0	30	40	.0	94	.0	58	12	.0	119	.0	35	22	.0					
11631	1	76	.0	130	6	.0	149	.1	23	17	.1	51	.0	93	7	.0	48	.0	300	5	.0
11632	1	400	.0	30	54	.0	174	.0	40	19	.0	97	.0	43	22	.0					
11633	1	204	.0	50	19	.0	100	.0	33	8	.0	39	.0	40	3	.0					
11634	1	73	.0	75	10	.0	1188	4.0	8	107	4.1	48	.0	45	10	.0	51	.0	333	8	.0
11634	2	26	.0	67			55	.1	47			9	.0	79			7	.0	147		
11635	1	813	.0	30	87	.0	400	.0	25	40	.0	287	.0	30	32	.0					
11635	2	363	.0	28	37	.0	281	.0	23	28	.0	161	.0	25	21	.0					
11636	1	125	.0	38	13	.0	186	.0	28	21	.0	94	.0	36	12	.0					
11637	1	100	.0	43	14	.0	109	.0	53	15	.0	51	.0	43	10	.0					
11638	1	140	.0	53	9	.0	324	.0	38	18	.0	63	.0	50	9	.0					
11639	1	73	.0	53	8	.0	186	.0	30	11	.0	54	.0	43	9	.0					
11639	2	210	.0	30	27	.0	247	.0	23	29	.0	85	.0	28	14	.0					
11640	1	88	.0	48	15	.0	106	.0	50	15	.0	42	.0	50	10	.0					
11641	1	235	.0	30	34	.0	235	.0	28	23	.0	94	.0	28	16	.0					
11642	1	201	.0	30	34	.0	467	.0	30	52	.0	112	.0	30	20	.0					
11643	1	403	.0	18	42	.0	327	.0	30	34	.0	201	.0	8	22	.0	201	.0	25	28	.0
11644	1	24	.0	15	10	.0	161	.0	20	19	.0	21	.0	18	9	.0					
11645	1	2841	1.4	3	182	1.4	369	.0	28	37	.0	369	.0	20	37	.0					
11646	1	85	.0	33	12	.0	241	.0	85	24	.0	60	.0	38	9	.0					
11647	1	1159	.5	20	77	.4	461	.0	80	36	.0	339	.0	30	31	.0	379	.0	23	40	.0
11648	1	122	.0	33	16	.0	167	.0	18	23	.0	63	.0	30	10	.0	63	.0	95	9	.0
11649	1	7203	8.0	5	299	6.6	7303	3.3	15	252	3.3	761	.1	23	40	.0	409	.4	20	24	.3
11649	2	186	.0	58	28	.0	186	.0	30	18	.0	54	.0	48	10	.0	51	.0	275	11	.0
11650	1	73	.0	43	5	.0	128	.0	53	11	.0	27	.0	35	4	.0					
13301	1	155	.0	45	9	.0	109	.0	53	9	.0	57	.0	50	6	.0	79	.0	145	7	.0
13302	1	125	.0	35	6	.0	97	.0	43	7	.0	39	.0	45	3	.0	54	.0	225	5	.0
13303	1	847	.3	8	60	.3	79	.0	28	3	.0	30	.0	33	1	.0	30	.0	183	2	.0
13304	1	2107	.5	8	150	.5	195	.0	53	13	.0	115	.0	70	6	.0	97	.0	330	7	.0

TABLE 5.12-6 SECOND FOUR MODE TEST (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
13305	1	220	.0	28	12	.0	109	.0	48	9	.0	63	.0	40	6	.0	97	.0	68	8	.0
13306	1	149	.0	28	10	.0	134	.0	30	10	.0	76	.0	30	8	.0	79	.0	100	7	.0
13307	1	109	.0	5	10	.0	97	.0	43	10	.0	63	.0	28	8	.0	174	.0	8	14	.0
13308	1	189	.0	28	9	.0	131	.0	40	9	.0	51	.0	33	3	.0	70	.0	38	4	.0
13309	1	137	.0	30	9	.0	97	.0	48	7	.0	24	.0	45	5	.0	27	.0	40	4	.0
13310	1	122	.0	23	9	.0	97	.0	40	9	.0	60	.0	28	6	.0	146	.0	10	10	.0
13311	1	333	.0	3	34	.0	180	.0	30	15	.0	79	.0	28	9	.0	88	.0	15	10	.0
13312	1	177	.0	25	12	.0	100	.0	38	10	.0	63	.0	30	7	.0	76	.0	60	7	.0
13313	1	97	.0	23	9	.0	109	.0	45	10	.0	88	.0	30	8	.0	67	.0	28	8	.0
13314	1	174	.0	35	12	.0	134	.0	45	12	.0	60	.0	40	8	.0	88	.0	250	10	.0
13315	1	171	.0	43	9	.0	143	.0	45	10	.0	88	.0	50	6	.0	106	.0	100	6	.0
13316	1	155	.0	30	8	.0	134	.0	50	9	.0	76	.0	43	4	.0	76	.0	110	5	.0
13317	1	587	.0	18	50	.0	119	.0	28	9	.0	48	.0	8	4	.0	94	.0	8	5	.0
13318	1	161	.0	20	14	.0	128	.0	33	11	.0	57	.0	28	8	.0	57	.0	23	7	.0
13319	1	685	.2	18	59	.3	198	.0	40	17	.0	112	.0	35	7	.0	109	.0	68	7	.0
13320	1	91	.0	28	8	.0	97	.0	33	9	.0	39	.0	45	5	.0	60	.0	100	6	.0
13321	1	103	.1	13	5	.0	67	.0	28	5	.0	21	.0	30	3	.0	42	.0	23	2	.0
13322	1	106	.0	58	10	.0	112	.0	35	10	.0	70	.0	80	9	.0	45	.0	130	7	.0
13323	1	311	.0	28	15	.0	244	.0	33	12	.0	180	.0	28	9	.0					
13324	1	1342	1.8	0	88	1.8	125	.0	33	8	.0	48	.0	25	3	.0	177	.0	10	8	.0
13325	1	730	.9	0	52	.8	140	.0	33	14	.0	42	.0	25	7	.0	67	.0	48	8	.0
13326	1	198	.0	20	15	.0	106	.0	83	11	.0	60	.0	8	10	.0					
13327	1	1679	1.0	3	77	.5	180	.0	25	16	.0	70	.0	28	5	.0	94	.0	80	8	.0
13328	1	131	.0	20	11	.0	137	.0	280	13	.0	94	.0	45	10	.0	103	.0	15	10	.0
13329	1	143	.0	30	10	.0	149	.0	40	12	.0	79	.0	48	8	.0	94	.0	8	9	.0
13330	1	125	.0	20	8	.0	63	.0	345	9	.0	91	.0	48	7	.0	36	.0	5	4	.0
13330	2	281	.0	8	20	.0	82	.0	290	11	.0	109	.0	33	10	.0	60	.0	15	8	.0
13331	1	91	.0	25	8	.0	112	.0	40	8	.0	24	.0	30	5	.0	45	.0	68	6	.0
13332	1	131	.0	28	0	.0	63	.0	120	0	.0	94	.0	43	0	.0	76	.0	68	0	.0
13333	1	45	.0	45	8	.0	94	.0	50	9	.0	15	.0	53	5	.0	15	.0	275	8	.0
13334	1	140	.0	25	8	.0	134	.0	45	10	.0	79	.0	33	6	.0	128	.0	33	10	.0
13335	1	82	.0	25	8	.0	88	.0	40	9	.0	39	.0	38	5	.0	63	.0	93	8	.0
13336	1	125	.0	20	9	.0	88	.0	65	8	.0	88	.0	35	7	.0					

TABLE 5.12-6 SECOND FOUR MODE TEST (CONT'D)

EPA NO S	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	------2500 RPM------- ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE IN GEAR--- ----LAB---- HC	CO	NOX	GARAGE HC	CO
13337 1	146	.0	30	5	.0	174	.0	45	11	.0	54	.0	38	0	.0	73	.0	130	2	.0
13338 1	177	.0	38	10	.0	119	.0	60	9	.0	57	.0	48	6	.0	63	.0	88	7	.0
13339 1	125	.0	30	12	.0	137	.0	88	12	.0	82	.0	50	9	.0					
13340 1	70	.0	13	9	.0	82	.0	33	9	.0	33	.0	30	6	.0	119	.0	18	9	.0
13341 1	155	.0	33	10	.0	112	.0	55	10	.0	48	.0	45	8	.0	63	.0	210	9	.0
13342 1	177	.0	30	11	.0	119	.0	50	11	.0	67	.0	35	8	.0	97	.0	65	10	.0
13343 1	155	.0	25	13	.0	131	.0	73	13	.0	103	.0	33	10	.0					
13344 1	119	.0	20	11	.0	125	.0	58	11	.0	42	.0	33	8	.0					
13345 1	210	.0	23	15	.0	146	.0	53	14	.0	63	.0	30	10	.0					
13346 1	210	.2	10	20	.1	112	.0	43	14	.0	67	.0	48	10	.0	51	.0	58	8	.0
13347 1	198	.0	33	10	.0	143	.0	50	12	.0	85	.0	43	7	.0	94	.0	63	7	.0
14201 1	164	.0	53	20	.0	106	.0	85	14	.0	63	.0	78	10	.0	100	.0	200	12	.0
14202 1	103	.0	53	13	.0	100	.0	75	13	.0	45	.0	75	8	.0	140	.0	105	10	.0
14203 1	333	.0	53	23	.0	164	.0	58	14	.0	85	.0	65	9	.0	152	.0	220	12	.0
14203 2	761	.0	45	44	.0	296	.0	53	18	.0	149	.0	50	11	.0	174	.0	100	11	.0
14203 3	333	.0	28	42	.0	140	.0	50	20	.0	79	.0	45	13	.0	146	.0	98	14	.0
14203 4	128	.0	50	17	.0	100	.0	70	15	.0	57	.0	60	11	.0	137	.0	95	13	.0
14204 1	88	.0	48	15	.0	67	.0	83	12	.0	36	.0	73	9	.0	131	.0	168	12	.0
14205 1	82	.0	75	11	.0	94	.0	95	13	.0	48	.0	105	8	.0	155	.0	213	12	.0
14206 1	415	.0	30	19	.0	79	.0	25	8	.0	174	.0	38	10	.0	293	.0	40	12	.0
14207 1	4577	3.1	8	276	2.9	256	.0	70	31	.0	109	.0	50	13	.0	272	.0	65	81	1.0
14208 1	39	.0	75	3	.0	54	.0	83	5	.0	24	.0	95	3	.0	73	.0	185	6	.0
14209 1	57	.0	48	9	.0	57	.0	93	10	.0	33	.0	63	8	.0	88	.0	185	11	.0
14210 1	70	.0	60	8	.0	79	.0	80	10	.0	54	.0	83	8	.0	149	.0	130	11	.0
14211 1	33	.0	128	10	.0	54	.0	95	9	.0	27	.0	145	10	.0	60	.0	300	12	.0
14212 1	88	.0	65	17	.0	76	.0	75	12	.0	36	.0	115	10	.0	109	.0	260	12	.0
15001 1	103	.0	53	18	.0	63	.0	95	11	.0	33	.0	70	9	.0	51	.0	95	10	.0
15002 1	82	.0	75	12	.0	67	.0	95	10	.0	48	.0	103	9	.0	39	.0	195	9	.0
15003 1	103	.0	48	16	.0	63	.0	88	9	.0	36	.0	70	8	.0	45	.0	78	8	.0

TABLE 5.12-7 FOUR MODE TEST - SPARK PLUG DISABLED

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
11601	1	311	.0	35	37	.0	299	.0	130	35	.0	100	.0	43	10	.0					
11602	1	844	.0	30	115	.0	424	.0	58	48	.0	112	.0	45	5	.0					
11603	1	617	.0	55	99	.0	388	.0	128	56	.0	216	.0	65	29	.0					
11604	1	483	.0	30	72	.0	247	.0	23	24	.0	94	.0	50	9	.0					
11605	1	394	.0	43	52	.0	522	.0	165	66	.0	195	.0	53	21	.0					
11606	1	296	.0	45	41	.0	397	.0	63	50	.0	180	.0	53	21	.0					
11607	1	152	.0	105	15	.0	299	.0	235	26	.0	82	.0	125	16	.0	103	.0	476	6	.0
11608	1	122	.0	78	22	.0	140	.0	58	17	.0	45	.0	90	7	.0					
11609	1	152	.0	35	21	.0	272	.0	90	42	.0	128	.0	25	16	.0					
11610	1	2015	.0	40	275	.0	5880	.1	168	740	.1	2021	.0	60	320	.0					
11610	2	3935	.0	38	545	.0	4476	.0	138	584	.0	2913	.0	45	410	.0					
11611	1	213	.0	125	50	.0	149	.0	323	40	.0	76	.0	133	30	.0	94	.0	668	40	.0
11612	1	155	.0	108	40	.0	158	.0	80	40	.0	67	.0	108	30	.0					
11613	1	862	.0	30	137	.0	394	.0	58	59	.0	92	.0	35	12	.0					
11614	1	1761	.0	45	256	.0	1578	.0	173	217	.0	629	.0	53	79	.0					
11615	1	146	.0	130	19	.0	281	.0	28	29	.0	97	.0	150	12	.0	112	.0	400	15	.0
11616	1	1373	.0	70	213	.0	1021	.0	75	148	.0	333	.0	75	46	.0					
11616	2	541	.0	30	80	.0	816	.0	20	112	.0	186	.0	28	20	.0					
11617	1	198	.0	78	28	.0	296	.0	40	37	.0	122	.0	80	16	.0					
11618	1	446	.0	55	67	.0	357	.0	93	49	.0	174	.0	63	25	.0					
11619	1	1101	.0	45	173	.0	730	.0	133	104	.0	431	.0	53	64	.0					
11620	1	1489	.1	5	164	.0	284	.0	300	38	.0	161	.0	75	22	.0					
11620	2	945	.0	3	110	.0	247	.0	293	30	.0	158	.0	58	19	.0					
11620	3	669	.0	5	61	.0	311	.0	270	43	.0	164	.0	75	19	.0					
11621	1	155	.0	90	28	.0	223	.0	203	35	.0	82	.0	93	15	.0					
11622	1	333	.0	43	51	.0	483	.0	100	69	.0	220	.0	48	38	.0					
11623	1	327	.0	40	49	.0	449	.0	165	62	.0	155	.0	50	23	.0					
11624	1	226	.0	33	29	.0	223	.0	30	32	.0	183	.0	30	21	.0					
11625	1	207	.0	25	30	.0	241	.0	143	33	.0	143	.0	48	21	.0					
11626	1	1336	.0	35	199	.0	1725	.0	175	245	.0	446	.0	30	65	.0					
11627	1	1098	.0	48	156	.0	694	.0	35	92	.0	167	.0	50	24	.0					

TABLE 5.12-7 FOUR MODE TEST - SPARK PLUG DISABLED (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
11628	1	1220	.0	40	178	.0	1036	.0	150	147	.0	480	.0	50	69	.0					
11629	1	109	.0	95	16	.0	152	.0	158	22	.0	67	.0	115	11	.0					
11630	1	626	.0	40	88	.0	556	.0	203	77	.0	220	.0	48	30	.0					
11631	1	91	.0	165	10	.0	67	.5	24	5	.7	33	.0	95	2	.0	30	.0	526	1	.0
11632	1	1281	.0	48	189	.0	1006	.0	150	142	.0	418	.0	58	62	.0					
11633	1	109	.0	50	10	.0	201	.0	85	20	.0	131	.0	58	11	.0					
11634	1	54	.0	205	9	.0	1359	4.8	13	112	4.9	5	.0	95	7	.0	36	.0	868	7	.0
11634	2	14	.0	119			65	.0	39			10	.0	123			12	.0	505		
11635	1	691	.0	33	94	.0	455	.0	83	59	.0	174	.0	43	18	.0					
11635	2	1091	.0	30	163	.0	700	.0	50	98	.0	229	.0	40	32	.0					
11636	1	914	.0	50	138	.0	522	.0	35	72	.0	125	.0	40	13	.0					
11637	1	290	.0	50	45	.0	317	.0	180	45	.0	149	.0	58	20	.0					
11638	1	1250	.0	58	194	.0	700	.0	60	97	.0	336	.0	68	46	.0					
11639	1	755	.0	55	114	.0	541	.0	170	77	.0	201	.0	75	27	.0					
11639	2	767	.0	43	109	.0	675	.0	110	96	.0	250	.0	53	35	.0					
11640	1	400	.0	75	62	.0	336	.0	180	49	.0	149	.0	80	21	.0					
11641	1	388	.0	30	54	.0	284	.0	170	39	.0	122	.0	43	19	.0					
11642	1	455	.0	33	67	.0	455	.0	45	66	.0	195	.0	40	30	.0					
11643	1	201	.0	8	29	.0	186	.0	60	30	.0	88	.0	23	15	.0	152	.0	305	23	.0
11644	1	140	.0	20	29	.0	284	.0	65	45	.0	51	.0	23	14	.0					
11645	1	296	.0	18	33	.0	431	.0	118	56	.0	275	.0	8	30	.0					
11646	1	437	.0	60	61	.0	455	.0	30	56	.0	158	.0	60	19	.0					
11647	1	455	.0	20	54	.0	669	.0	25	60	.0	186	.0	13	19	.0	256	.0	10	23	.0
11648	1	128	.0	50	17	.0	134	.0	15	16	.0	54	.0	20	8	.0	54	.0	55	7	.0
11649	1	455	.4	18	26	.8	1373	1.3	5	44	3.2	79	.0	8	6	.0	76	.0	13	6	.0
11649	2	164	.0	143	25	.0	189	.0	153	29	.0	82	.0	83	13	.0	88	.0	471	16	.0
11650	1	97	.0	45	9	.0	250	.0	128	23	.0	48	.0	58	12	.0					
13301	1	70	.0	55	5	.0	48	.0	70	6	.0	5	.0	70	3	.0	109	.0	80	13	.0
13302	1	18	.0	48	1	.0	8	.0	65	1	.0	2	.0	55	0	.0	88	.0	25	5	.0
13303	1	76	.0	70	1	.0	33	.0	53	2	.0	2	.0	65	0	.0	2	.0	275	0	.0
13304	1	171	.0	105	13	.0	48	.0	100	4	.0	24	.0	108	1	.0	11	.0	678	6	.0

TABLE 5.12-7 FOUR MODE TEST - SPARK PLUG DISABLED (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
13305	1	57	.0	40	5	.0	39	.0	60	5	.0	2	.0	50	1	.0	0	.0	105	2	.0
13306	1	67	.0	48	6	.0	30	.0	55	5	.0	8	.0	53	3	.0	403	.0	8	33	.0
13307	1	161	.0	10	17	.0	24	.0	68	5	.0	174	.0	8	14	.0	97	.0	3	9	.0
13308	1	97	.0	40	7	.0	63	.0	68	7	.0	21	.0	48	1	.0	21	.0	68	2	.0
13309	1	36	.0	45	5	.0	15	.0	50	3	.0	2	.0	55	2	.0	128	.0	30	8	.0
13310	1	27	.0	28	4	.0	27	.0	70	4	.0	11	.0	30	3	.0	489	.0	3	36	.0
13311	1	57	.0	35	8	.0	39	.0	63	7	.0	21	.0	35	5	.0	473	.0	30	42	.0
13312	1	79	.0	43	9	.0	48	.0	68	7	.0	21	.0	50	4	.0	584	.0	8	49	.0
13313	1	278	.0	10	29	.0	45	.0	68	7	.0	189	.0	13	21	.0	158	.0	5	14	.0
13314	1	88	.0	58	9	.0	48	.0	88	8	.0	21	.0	63	6	.0	149	.0	63	19	.0
13315	1	82	.0	53	6	.0	54	.0	73	5	.0	18	.0	55	1	.0	333	.0	33	16	.0
13316	1	42	.0	45	2	.0	24	.0	68	2	.0	8	.0	55	1	.0	21	.0	100	2	.0
13317	1	461	.0	5	43	.0	33	.0	50	2	.0	320	.0	5	22	.0	363	.0	3	24	.0
13318	1	48	.0	50	6	.0	36	.0	53	7	.0	15	.0	50	4	.0	428	.0	10	37	.0
13319	1	79	.0	45	6	.0	51	.0	70	6	.0	24	.0	50	2	.0	36	.0	55	5	.0
13320	1	54	.0	45	5	.0	36	.0	55	6	.0	11	.0	58	3	.0	51	.0	48	6	.0
13321	1	15	.0	50	2	.0	8	.0	55	2	.0	2	.0	53	1	.0	2	.0	313	3	.0
13322	1	36	.0	115	8	.0	21	.0	63	5	.0	11	.0	105	5	.0	79	.0	35	8	.0
13323	1	614	.0	30	52	.0	1110	.0	33	103	.0	602	.0	30	50	.0					
13324	1	57	.0	3	3	.0	27	.0	55	1	.0	82	.0	3	3	.0	174	.0	3	9	.0
13325	1	76	.0	20	11	.0	63	.0	70	10	.0	8	.0	28	5	.0	15	.0	85	6	.0
13326	1	103	.0	20	9	.0	180	.0	183	23	.0	57	.0	33	7	.0					
13327	1	39	.0	28	6	.0	39	.0	48	5	.0	8	.0	43	3	.0	48	.0	25	6	.0
13328	1	678	.0	3	54	.0	27	.0	488	8	.0	73	.0	25	7	.0	308	.0	8	23	.0
13329	1	33	.0	33	4	.0	8	.0	68	3	.0	2	.0	43	2	.0	339	.0	3	23	.0
13330	1	5	.0	30	2	.0	5	.0	446	5	.0	0	.0	55	2	.0	415	.0	5	29	.0
13330	2	149	.0	8	16	.0	11	.0	428	8	.0	5	.0	45	3	.0	327	.0	8	28	.0
13331	1	30	.0	15	7	.0	33	.0	58	6	.0	2	.0	48	3	.0	2	.0	85	5	.0
13332	1	63	.0	65	2	.0	33	.0	313	2	.0	8	.0	75	0	.0	5	.0	250	0	.0
13333	1	24	.0	93	6	.0	33	.0	75	6	.0	2	.0	118	4	.0	2	.0	518	10	.0
13334	1	119	.0	33	12	.0	94	.0	55	14	.0	39	.0	40	2	.0	501	.0	35	23	.0
13335	1	94	.0	38	8	.0	27	.0	55	7	.0	5	.0	45	4	.0	2	.0	148	5	.0
13336	1	60	.0	30	8	.0	21	.0	30	6	.0	48	.0	65	8	.0	21	.0	30	3	.0

TABLE 5.12-7 FOUR MODE TEST - SPARK PLUG DISABLED (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
13337	1	106	.0	45	2	.0	67	.0	55	4	.0	8	.0	58	0	.0	8	.0	100	0	.0
13338	1	76	.0	50	8	.0	33	.0	60	6	.0	8	.0	53	2	.0	8	.0	100	4	.0
13339	1	314	.0	50	44	.0	149	.0	100	20	.0	33	.0	53	5	.0					
13340	1	15	.0	30	4	.0	18	.0	60	5	.0	8	.0	23	3	.0	265	.0	13	17	.0
13341	1	42	.0	63	7	.0	15	.0	75	4	.0	5	.0	70	4	.0	5	.0	213	5	.0
13342	1	100	.0	45	10	.0	79	.0	73	13	.0	18	.0	50	5	.0	143	.0	55	14	.0
13343	1	119	.0	50	10	.0	33	.0	100	8	.0	21	.0	45	5	.0					
13344	1	70	.0	28	7	.0	39	.0	55	7	.0	5	.0	33	5	.0					
13345	1	122	.0	28	10	.0	57	.0	53	11	.0	11	.0	28	6	.0					
13346	1	5780	.6	5	590	.6	97	.0	58	23	.0	33	.0	75	10	.0	302	.0	18	25	.0
13347	1	171	.0	43	11	.0	39	.0	68	6	.0	18	.0	53	2	.0	88	.0	65	6	.0
14201	1	88	.0	78	15	.0	210	.0	100	28	.0	42	.0	100	7	.0	60	.0	293	7	.0
14202	1	128	.0	83	17	.0	443	.0	83	58	.0	36	.0	108	6	.0	97	.0	135	6	.0
14203	1	119	.0	73	18	.0	180	.0	83	25	.0	36	.0	83	5	.0	57	.0	280	5	.0
14203	2	67	.0	50	7	.0	210	.0	70	28	.0	48	.0	63	4	.0	76	.0	130	5	.0
14203	3	88	.0	38	12	.0	204	.0	55	24	.0	33	.0	53	7	.0	63	.0	123	7	.0
14203	4	112	.0	63	18	.0	357	.0	80	48	.0	42	.0	80	8	.0	119	.0	110	10	.0
14204	1	106	.0	70	15	.0	232	.0	103	32	.0	30	.0	83	6	.0	57	.0	213	7	.0
14205	1	94	.0	95	13	.0	216	.0	130	30	.0	33	.0	95	4	.0	88	.0	220	6	.0
14206	1	97	.0	38	7	.0	88	.0	58	9	.0	36	.0	48	5	.0	30	.0	58	4	.0
14207	1	88	.0	50	11	.0	164	.0	85	20	.0	45	.0	53	6	.0	109	.0	75	112	.1
14208	1	119	.0	93	14	.0	241	.0	93	27	.0	33	.0	100	2	.0	48	.0	280	2	.0
14209	1	140	.0	73	17	.0	192	.0	103	27	.0	48	.0	73	10	.0	67	.0	235	10	.0
14210	1	82	.0	90	11	.0	210	.0	100	28	.0	51	.0	90	5	.0	82	.0	193	6	.0
14211	1	109	.0	203	23	.0	287	.0	115	39	.0	27	.0	230	6	.0	63	.0	378	9	.0
14212	1	85	.0	98	14	.0	128	.0	80	15	.0	24	.0	140	6	.0	57	.0	338	7	.0
15001	1	164	.0	65	27	.0	470	.0	105	63	.0	51	.0	95	9	.0	54	.0	125	8	.0
15002	1	51	.0	123	10	.0	143	.0	125	18	.0	27	.0	153	6	.0	27	.0	255	5	.0
15003	1	171	.0	70	25	.0	281	.0	150	40	.0	36	.0	93	7	.0	45	.0	148	7	.0

TABLE 5.12-8 MODIFIED IDLE TEST

		2500 RPM					IDLE NEUTRAL					IDLE IN GEAR				
		LAB			GARAGE		LAB			GARAGE		LAB			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
11601	1	94	.0	58	7	.0	91	.0	35	10	.0					
11602	1	88	.0	100	0	.0	94	.0	38	4	.0					
11603	1	57	.0	48	6	.0	36	.0	50	7	.0					
11604	1	100	.0	30	9	.0	57	.0	33	7	.0					
11605	1	97	.0	53	3	.0	57	.0	43	2	.0					
11606	1	60	.0	103	5	.0	57	.0	43	7	.0					
11607	1	94	.0	70	4	.0	48	.0	65	3	.0	42	.0	158	0	.0
11608	1	119	.0	28	11	.0	36	.0	53	6	.0					
11609	1	39	.0	80	8	.0	36	.0	23	7	.0					
11610	1	161	.0	153	12	.0	250	.0	58	30	.0					
11610	2	648	.2	143	34	.2	281	.0	45	27	.0					
11611	1	91	.0	40	30	.0	33	.0	80	20	.0	27	.0	325	20	.0
11612	1	67	.0	30	20	.0	45	.0	70	20	.0					
11613	1	144	.0	25	16	.0	198	.0	28	32	.0					
11614	1	88	.0	75	6	.0	76	.0	48	7	.0					
11615	1	247	.0	53	23	.0	76	.0	75	8	.0	48	.0	125	6	.0
11616	1	241	.0	33	24	.0	88	.0	53	13	.0					
11616	2	186	.0	25	15	.0	97	.0	25	8	.0					
11617	1	63	.0	23	6	.0	39	.0	50	7	.0					
11618	1	70	.0	33	9	.0	42	.0	38	8	.0					
11619	1	189	.0	25	22	.0	79	.0	35	15	.0					
11620	1	122	.0	118	8	.0	122	.0	43	7	.0					
11620	2	210	.1	40	18	.2	94	.0	15	15	.0					
11620	3	210	.2	18	16	.1	241	.1	8	22	.1					
11621	1	57	.0	85	11	.0	57	.0	73	14	.0					
11622	1	63	.0	65	12	.0	51	.0	40	12	.0					
11623	1	60	.0	73	10	.0	57	.0	33	9	.0					
11624	1	183	.0	25	14	.0	76	.0	28	9	.0					
11625	1	54	.0	68	7	.0	67	.0	25	10	.0					
11626	1	60	.0	108	10	.0	143	.0	30	27	.0					
11627	1	229	.0	33	22	.0	57	.0	40	10	.0					

TABLE 5.12-8 MODIFIED IDLE TEST (CONT'D)

		2500 RPM					IDLE NEUTRAL					IDLE IN GEAR				
		LAB			GARAGE		LAB			GARAGE		LAB			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
11628	1	79	.0	55	10	.0	82	.0	45	12	.0					
11629	1	63	.0	48	8	.0	76	.0	50	12	.0					
11630	1	54	.0	105	8	.0	79	.0	43	12	.0					
11631	1	73	.0	23	8	.0	39	.0	80	5	.0	63	.0	53	5	.0
11632	1	79	.0	68	10	.0	60	.0	45	12	.0					
11633	1	63	.0	70	4	.0	33	.0	48	1	.0					
11634	1	143	2.1	18	13	2.0	45	.0	58	7	.0	51	.0	345	7	.0
11634	2	38	.0	47			7	.0	87			6	.0	215		
11635	1	210	.0	28	19	.0	167	.0	30	17	.0					
11635	2	210	.0	20	21	.0	131	.0	28	19	.0					
11636	1	186	.0	30	19	.0	82	.0	35	10	.0					
11637	1	88	.0	80	12	.0	39	.0	48	9	.0					
11638	1	140	.0	28	12	.0	54	.0	45	7	.0					
11639	1	94	.0	43	9	.0	39	.0	48	6	.0					
11639	2	161	.0	28	19	.0	63	.0	30	13	.0					
11640	1	79	.0	58	12	.0	33	.0	55	9	.0					
11641	1	67	.0	40	10	.0	63	.0	33	12	.0					
11642	1	128	.0	33	15	.0	63	.0	30	11	.0					
11643	1	112	.0	15	15	.0	103	.0	10	11	.0	57	.0	18	9	.0
11644	1	39	.0	20	9	.0	8	.0	20	8	.0					
11645	1	100	.0	43	10	.0	272	.0	23	26	.0					
11646	1	174	.0	40	17	.0	36	.0	43	6	.0					
11647	1	415	.1	98	31	.1	265	.0	28	22	.0	311	.0	33	32	.0
11648	1	67	.0	23	10	.0	51	.0	38	8	.0	67	.0	108	9	.0
11649	1	320	1.5	10	19	1.6	103	.0	23	9	.0	91	.0	23	7	.0
11649	2	149	.0	53	16	.0	48	.0	50	9	.0	48	.0	305	11	.0
11650	1	100	.0	55	8	.0	27	.0	43	3	.0					
13301	1	82	.0	50	7	.0	48	.0	50	5	.0	82	.0	125	6	.0
13302	1	48	.0	55	3	.0	30	.0	48	2	.0	45	.0	210	5	.0
13303	1	24	.0	43	0	.0	11	.0	43	0	.0	33	.0	193	1	.0
13304	1	73	.0	68	5	.0	63	.0	73	5	.0	70	.0	343	6	.0

TABLE 5.12-8 MODIFIED IDLE TEST (CONT'D)

EPA NO S	2500 RPM					IDLE NEUTRAL					IDLE IN GEAR				
	LAB			GARAGE		LAB			GARAGE		LAB			GARAGE	
	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
13305 1	60	.0	50	5	.0	42	.0	43	4	.0	67	.0	100	6	.0
13306 1	91	.0	38	8	.0	70	.0	33	6	.0	57	.0	95	5	.0
13307 1	70	.0	53	8	.0	51	.0	30	7	.0	140	.0	10	12	.0
13308 1	79	.0	50	4	.0	51	.0	33	2	.0	76	.0	38	3	.0
13309 1	51	.0	58	5	.0	27	.0	48	4	.0	57	.0	33	6	.0
13310 1	76	.0	53	6	.0	42	.0	28	4	.0	189	.0	8	13	.0
13311 1	91	.0	50	9	.0	57	.0	30	7	.0	241	.0	13	21	.0
13312 1	70	.0	48	7	.0	54	.0	35	6	.0	54	.0	50	5	.0
13313 1	79	.0	53	8	.0	67	.0	30	6	.0	57	.0	25	7	.0
13314 1	79	.0	58	9	.0	63	.0	45	7	.0	79	.0	290	10	.0
13315 1	88	.0	55	6	.0	88	.0	50	5	.0	85	.0	213	5	.0
13316 1	82	.0	55	5	.0	67	.0	48	4	.0	63	.0	93	4	.0
13317 1	76	.0	43	5	.0	27	.0	8	2	.0	94	.0	8	4	.0
13318 1	88	.0	45	8	.0	54	.0	30	6	.0	97	.0	10	8	.0
13319 1	91	.0	53	7	.0	79	.0	43	5	.0	88	.0	70	6	.0
13320 1	67	.0	50	7	.0	51	.0	45	5	.0	60	.0	98	6	.0
13321 1	30	.0	40	3	.0	15	.0	43	3	.0	18	.0	100	3	.0
13322 1	88	.0	48	9	.0	79	.0	98	9	.0	39	.0	130	7	.0
13323 1	220	.0	40	11	.0	171	.0	28	6	.0					
13324 1	63	.0	48	2	.0	27	.0	25	0	.0	210	.0	5	9	.0
13325 1	60	.0	40	7	.0	27	.0	25	6	.0	57	.0	50	7	.0
13326 1	112	.0	70	10	.0	128	.0	25	10	.0					
13327 1	82	.0	40	7	.0	60	.0	30	6	.0	70	.0	78	6	.0
13328 1	122	.0	325	13	.0	88	.0	53	9	.0	161	.0	15	14	.0
13329 1	112	.0	45	9	.0	79	.0	50	7	.0	216	.0	18	16	.0
13330 1	63	.0	363	8	.0	91	.0	48	6	.0	76	.0	5	3	.0
13330 2	63	.0	363	10	.0	119	.0	48	9	.0	149	.0	15	14	.0
13331 1	57	.0	40	6	.0	27	.0	35	5	.0	51	.0	80	6	.0
13332 1	57	.0	105	2	.0	82	.0	45	2	.0	112	.0	188	4	.0
13333 1	76	.0	63	8	.0	18	.0	58	5	.0	15	.0	330	10	.0
13334 1	97	.0	43	7	.0	67	.0	35	5	.0	164	.0	33	10	.0
13335 1	70	.0	45	7	.0	51	.0	30	6	.0	67	.0	103	8	.0
13336 1	106	.0	80	9	.0	100	.0	38	7	.0					

TABLE 5.12-8 MODIFIED IDLE TEST (CONT'D)

		2500 RPM					IDLE NEUTRAL					IDLE IN GEAR				
		LAB			GARAGE		LAB			GARAGE		LAB			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
13337	1	106	.0	48	3	.0	57	.0	43	0	.0	82	.0	130	2	.0
13338	1	88	.0	53	8	.0	63	.0	50	6	.0	70	.0	93	7	.0
13339	1	63	.0	150	9	.0	73	.0	45	8	.0					
13340	1	36	.0	48	5	.0	18	.0	38	4	.0	216	.0	20	13	.0
13341	1	63	.0	50	7	.0	48	.0	48	7	.0	57	.0	208	8	.0
13342	1	88	.0	55	10	.0	67	.0	35	7	.0	94	.0	55	8	.0
13343	1	94	.0	95	10	.0	100	.0	40	10	.0					
13344	1	88	.0	75	10	.0	39	.0	33	7	.0					
13345	1	97	.0	65	10	.0	63	.0	33	9	.0					
13346	1	88	.0	48	10	.0	57	.0	48	9	.0	33	.0	50	7	.0
13347	1	91	.0	50	8	.0	79	.0	45	6	.0	85	.0	68	6	.0
14201	1	67	.0	103	10	.0	48	.0	95	8	.0	79	.0	248	10	.0
14202	1	82	.0	80	9	.0	39	.0	105	6	.0	119	.0	140	9	.0
14203	1	171	.0	73	12	.0	85	.0	98	9	.0	137	.0	245	10	.0
14203	2	195	.0	65	12	.0	94	.0	58	7	.0	119	.0	123	9	.0
14203	3	119	.0	58	19	.0	63	.0	50	10	.0	122	.0	105	11	.0
14203	4	60	.0	75	10	.0	51	.0	75	9	.0	134	.0	100	11	.0
14204	1	51	.0	95	10	.0	30	.0	80	8	.0	119	.0	193	11	.0
14205	1	63	.0	105	9	.0	30	.0	118	6	.0	146	.0	198	10	.0
14206	1	60	.0	68	7	.0	149	.0	43	9	.0	241	.0	50	10	.0
14207	1	115	.0	73	14	.0	60	.0	65	10	.0	210	.0	78	12	.0
14208	1	33	.0	95	3	.0	21	.0	100	2	.0	63	.0	200	4	.0
14209	1	45	.0	100	9	.0	30	.0	73	8	.0	70	.0	193	10	.0
14210	1	54	.0	93	8	.0	42	.0	93	7	.0	128	.0	143	9	.0
14211	1	30	.0	108	8	.0	21	.0	175	9	.0	51	.0	325	10	.0
14212	1	57	.0	88	10	.0	30	.0	135	9	.0	103	.0	280	11	.0
15001	1	48	.0	103	9	.0	33	.0	78	8	.0	36	.0	115	8	.0
15002	1	42	.0	118	7	.0	36	.0	105	7	.0	30	.0	200	8	.0
15003	1	36	.0	103	7	.0	30	.0	80	6	.0	39	.0	100	7	.0

TABLE 5.12-9 FTP & HFET

						FTP						HFET				
EPA NO	S	DATE	ODOM	IW	AHP	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
11601	1	810312	7725	2250	6.4	.27	1.55	336.1	.67	.60	26.1	.12	.38	216.2	.60	40.83
11602	1	810310	4902	2250	6.4	.32	3.75	335.2	.63	.56	25.9	.16	1.09	223.7	.60	39.26
11603	1	810313	4686	2250	6.4	.31	4.35	355.2	.58	.52	24.4	.12	.33	232.5	.56	37.99
11604	1	810317	8894	2250	6.4	.45	5.60	350.4	.62	.53	24.6	.14	.58	225.5	.65	39.09
11605	1	810313	7104	2250	6.4	.43	8.58	361.4	.65	.57	23.6	.16	2.96	241.8	.69	35.92
11606	1	810317	6473	2250	6.4	.40	5.19	347.6	.66	.57	24.8	.17	.87	228.9	.70	38.41
11607	1	810319	6440	2250	6.4	.35	6.28	347.5	.78	.65	24.7	.14	.36	266.5	.80	33.15
11608	1	810319	2545	2250	6.4	.29	2.52	350.7	.55	.47	24.9	.12	.49	226.0	.54	39.04
11609	1	810320	4488	2250	6.4	.34	4.06	357.8	.76	.66	24.3	.11	.86	220.8	.62	39.85
11610	1	810319	5003	2250	6.4	1.50	35.68	316.4	.56	.47	23.5	.63	16.75	216.5	.52	36.23
11610	2	810326		2250	6.4	.78	10.31	360.1	.70	.61	23.4	.33	2.56	236.7	.78	36.68
11611	1	810320	2819	2500	6.5	.25	4.44	364.9	1.48	1.28	23.8	.07	.79	296.2	.95	29.79
11612	1	810323	5629	2250	6.4	.41	5.99	373.5	.52	.46	23.1	.17	1.12	236.6	.57	37.12
11613	1	810324	9917	2250	6.4	.37	5.75	360.0	.97	.85	24.0	.16	1.92	234.8	.64	37.21
11614	1	810323	5655	2250	6.4	.58	6.27	360.4	.61	.54	23.8	.28	2.12	238.6	.62	36.53
11615	1	810323	6372	2250	6.4	.30	5.66	379.6	.80	.71	22.8	.14	1.09	286.5	.64	30.73
11616	1	810325	9350	2250	6.4	2.14	3.29	344.6	.67	.60	24.9	.16	4.72	229.6	.39	37.34
11616	2	810406		2250	6.4	1.34	3.81	333.3	.45	.39	25.8	.16	2.35	221.2	.37	39.35
11617	1	810325	1086	2250	6.4	.33	5.25	374.8	.58	.49	23.1	.14	.59	239.7	.59	36.78
11618	1	810325	3011	2250	6.4	.36	5.12	362.9	.52	.47	23.8	.15	1.37	233.5	.51	37.56
11619	1	810327	2828	2250	6.4	.47	5.25	344.7	.63	.54	25.0	.17	.72	223.2	.67	39.44
11620	1	810326	3967	2250	6.4	.61	14.21	335.1	.44	.39	24.7	.15	1.95	230.1	.58	37.96
11620	2	810330		2250	6.4	.70	16.15	339.0	.48	.41	24.2	.15	2.20	227.3	.56	38.34
11620	3	810331		2250	6.4	.67	15.51	330.6	.45	.39	24.8	.14	1.71	222.8	.55	39.24
11621	1	810327	4117	2250	6.4	.30	3.76	358.0	.94	.80	24.3	.11	.38	225.9	.82	39.09
11622	1	810327	6054	2250	6.4	.37	5.32	347.6	.55	.47	24.8	.15	.82	222.8	.55	39.50
11623	1	810330	2468	2500	6.5	.47	8.79	366.0	.50	.45	23.3	.17	1.22	238.5	.62	36.81
11624	1	810401	2363	2500	6.5	.25	2.29	360.7	.76	.66	24.3	.14	.99	239.8	.45	36.68
11625	1	810330	2036	2250	6.4	.25	3.04	343.9	.55	.49	25.4	.13	.50	226.2	.53	39.01
11626	1	810401	8931	2250	6.4	.36	3.55	341.1	.51	.44	25.5	.15	.96	215.8	.47	40.72
11627	1	810331	6125	2500	6.5	.28	3.60	363.2	.66	.58	24.0	.12	3.18	236.2	.36	36.71

TABLE 5.12-9 FTP & HFET (CONT'D)

EPA NO	S	DATE	ODOM	IW	AHP	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG
11628	1	810401	13896	2250	6.4	.46	4.92	335.1	.79	.68	25.8	.15	.79	217.5	.62	40.45
11629	1	810402	2499	2250	6.4	.27	2.81	364.7	.63	.54	24.0	.12	.53	225.9	.56	39.05
11630	1	810402	10339	2500	6.5	.39	7.88	343.7	.81	.71	24.8	.14	1.71	220.4	.65	39.67
11631	1	810402	5704	2250	6.4	.25	3.48	363.7	.78	.67	24.0	.12	1.82	280.8	.40	31.22
11632	1	810403	8615	2500	6.5	.49	5.37	356.3	.59	.50	24.2	.20	1.30	224.2	.61	39.09
11633	1	810504	436	2250	6.4	.28	3.21	353.9	.57	.48	24.6	.10	.62	223.3	.54	39.48
11634	1	810519	2369	2500	6.5	.34	9.73	403.4	.65	.61	21.1	.13	4.05	302.1	.45	28.72
11634	2	810812	3303	2500	6.5	.40	11.60	397.3	.39	.44	21.3	.13	5.79	296.2	.22	29.01
11635	1	810520	5986	2500	6.5	1.54	4.36	364.0	.71	.67	23.6	.16	1.65	228.2	.55	38.33
11635	2	810609		2500	6.5	.86	4.92	360.2	.53	.53	23.9	.15	2.20	225.2	.36	38.70
11636	1	810521	6619	2500	6.5	.38	2.70	361.1	.77	.72	24.2	.14	.44	223.4	.49	39.50
11637	1	810522	5290	2500	6.5	.31	4.99	362.9	.74	.69	23.9	.12	.78	230.2	.64	38.26
11638	1	810526	6006	2500	6.5	.41	4.46	388.4	.59	.56	22.4	.17	1.48	240.4	.48	36.45
11639	1	810527	11631	2500	6.5	.91	2.92	358.8	.76	.73	24.2	.12	.78	223.7	.57	39.36
11639	2	810603		2500	6.5	.74	3.80	354.8	.63	.64	24.4	.13	1.64	218.6	.48	40.02
11640	1	810528	4576	2500	6.5	.44	9.30	373.3	.65	.64	22.8	.13	2.97	234.4	.52	37.03
11641	1	810529	8191	2500	6.5	.41	5.44	361.4	.56	.57	23.9	.17	1.96	220.3	.46	39.61
11642	1	810601	11559	2250	6.4	.40	5.42	352.3	.58	.55	24.5	.14	.87	226.9	.48	38.77
11643	1	810602	3183	2250	6.4	.31	4.24	363.7	.63	.60	23.9	.17	.87	263.9	.55	33.36
11644	1	810604	9655	2500	6.5	.40	3.61	369.4	.73	.76	23.6	.16	1.10	220.7	.43	39.77
11645	1	810604	4481	2250	6.4	.44	4.36	358.1	.58	.62	24.2	.19	1.20	230.4	.59	38.08
11646	1	810605	9249	2500	6.5	.40	7.53	401.2	1.26	1.31	21.4	.13	3.59	260.7	.70	33.25
11647	1	810608	7714	2250	6.4	.41	11.82	354.8	.32	.31	23.7	.13	7.22	280.4	.67	30.35
11648	1	810610	6016	2250	6.4	.31	4.91	347.9	.66	.64	24.9	.14	.72	250.9	.39	35.13
11649	1	810611	8152	2250	6.4	.39	13.14	400.4	.48	.46	21.0	.17	4.09	297.1	.24	29.17
11649	2	810615		2250	6.4	.32	3.68	349.0	.73	.70	24.9	.09	.15	259.8	.94	34.07
11650	1	810615	4092	2250	6.4	.37	3.73	361.5	.52	.50	24.1	.14	.78	226.1	.40	38.94
13301	1	810403	2903	3000	8.5	.18	1.19	491.0	.76	.66	18.0	.05	.00	382.9	.59	23.15
13302	1	810406	3722	3000	8.5	.18	1.19	500.2	.81	.68	17.6	.03	.00	360.1	.65	24.62
13303	1	810406	5189	3000	8.5	.21	1.37	517.0	.55	.47	17.1	.09	.02	385.1	.16	23.01
13304	1	810407	7592	3000	8.5	.18	1.02	500.1	1.45	1.25	17.7	.05	.01	362.4	1.76	24.46

TABLE 5.12-9 FTP & HFET (CONT'D)

EPA NO	S	DATE	ODOM	IW	AHP	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG
13305	1	810408	6970	3000	8.5	.19	.90	539.5	.50	.44	16.4	.06	.02	398.4	.37	22.25
13306	1	810408	2417	3000	10.4	.19	1.17	497.6	.34	.31	17.7	.05	.01	376.4	.34	23.55
13307	1	810409	2735	3000	10.4	.22	1.47	501.7	.52	.45	17.6	.06	.00	389.9	.69	22.73
13308	1	810409	2405	3000	10.4	.20	.50	485.7	.74	.64	18.2	.05	.01	384.8	1.02	23.04
13309	1	810410	5127	3000	10.4	.25	.90	539.0	.19	.16	16.4	.11	.04	421.7	.14	21.01
13310	1	810410	5226	3000	10.4	.22	1.06	502.5	.33	.28	17.6	.05	.00	388.2	.54	22.83
13311	1	810410	4121	3000	10.7	.23	1.18	497.5	.50	.42	17.7	.08	.02	390.9	.60	22.67
13312	1	810414	5850	3000	10.4	.20	1.08	472.3	.50	.42	18.7	.06	.01	380.8	.45	23.27
13313	1	810413	2349	3500	11.1	.24	1.74	523.0	.34	.28	16.8	.09	.08	404.8	.40	21.88
13314	1	810413	2912	3000	10.7	.28	1.40	508.4	.71	.60	17.3	.11	.09	388.1	.49	22.82
13315	1	810413	7390	3500	11.1	.39	1.71	553.2	.48	.40	15.9	.26	.43	421.6	.38	20.96
13316	1	810414	8558	3500	11.1	.61	1.18	547.6	.89	.74	16.1	.12	.12	416.7	.27	21.25
13317	1	810415	3103	3500	11.1	.38	1.56	521.2	.26	.22	16.9	.10	.04	402.8	.35	22.00
13318	1	810416	2337	3000	8.5	.28	.67	480.1	.40	.36	18.4	.08	.00	360.8	.18	24.56
13319	1	810416	2875	3000	8.5	.21	.82	479.4	.89	.77	18.4	.04	.00	359.8	.78	24.64
13320	1	810416	1509	3500	11.1	.19	1.18	515.9	.67	.57	17.1	.06	.02	397.2	.56	22.32
13321	1	810417	769	3500	11.1	.18	1.55	555.7	.25	.22	15.9	.13	.19	430.9	.18	20.55
13322	1	810420	1807	3500	11.1	.19	1.53	581.0	.62	.54	15.2	.07	.03	419.7	.41	21.12
13323	1	810420	2909	3000	8.5	.52	3.30	529.3	.58	.53	16.5	.21	.32	322.2	.68	27.43
13324	1	810422	1200	3500	11.1	.14	.37	548.9	.36	.33	16.1	.03	.01	409.7	.56	21.64
13325	1	810423	2471	3000	10.7	.23	1.01	492.7	.80	.76	17.9	.07	.04	401.6	.34	22.07
13326	1	810422	2811	3000	8.0	.32	1.65	458.5	.83	.81	19.2	.09	.03	288.5	.90	30.70
13327	1	810423	1939	3000	10.7	.21	1.20	510.7	.27	.27	17.3	.13	.07	400.4	.14	22.12
13328	1	810423	10607	3500	10.4	.25	1.61	512.4	1.95	1.93	17.2	.09	.10	420.1	2.29	21.09
13329	1	810424	5220	3000	10.7	.31	1.23	504.0	.44	.39	17.5	.04	.02	380.2	1.18	23.31
13330	1	810424	5680	3000	10.7	.27	1.34	511.5	.80	.71	17.2	.14	.03	416.2	.57	21.28
13330	2	810427		3000	10.7	.25	1.71	521.6	.83	.71	16.9	.13	.03	412.8	.62	21.46
13331	1	810424	3354	3500	11.1	.29	1.32	524.8	.64	.57	16.8	.07	.03	397.5	.47	22.29
13332	1	810427	5942	3500	11.1	.23	1.58	545.7	1.44	1.27	16.2	.06	.05	399.6	1.16	22.18
13333	1	810427	688	3000	10.7	.23	1.96	474.5	.88	.78	18.5	.03	.00	385.8	1.14	22.98
13334	1	810428	695	3000	8.0	.34	.41	486.5	.60	.56	18.2	.09	.03	369.6	1.01	23.97
13335	1	810428	2510	3500	11.1	.30	1.84	504.0	.69	.67	17.5	.06	.09	401.2	.56	22.08
13336	1	810429	2373	3000	8.5	.17	1.28	463.4	.87	.84	19.0	.06	.09	308.4	1.18	28.73

TABLE 5.12-9 FTP & HFET (CONT'D)

EPA NO	S	DATE	ODOM	IW	AHP	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG
13337	1	810430	3389	3000	8.5	.18	1.13	469.0	.61	.64	18.8	.04	.01	344.2	.54	25.76
13338	1	810430	7268	3500	11.1	.21	1.17	530.4	.62	.61	16.6	.06	.03	421.9	.63	21.01
13339	1	810505	5882	3000	8.5	.28	1.27	457.3	1.38	1.19	19.3	.09	.11	309.6	1.45	28.60
13340	1	810506	1677	3000	8.5	.21	1.19	516.4	.23	.20	17.1	.13	.10	382.7	.13	23.14
13341	1	810507	4747	3500	11.1	.17	1.05	522.5	.68	.59	16.9	.10	.01	397.7	.27	22.28
13342	1	810508	3830	3500	10.4	.22	.89	518.8	.95	.83	17.0	.06	.03	387.7	1.17	22.86
13343	1	810512	2532	3000	8.5	.24	1.17	465.6	1.39	1.26	18.9	.08	.09	302.3	1.66	29.30
13344	1	810513	4635	3000	8.5	.20	2.40	459.2	.62	.57	19.1	.05	.16	299.6	1.11	29.55
13345	1	810514	3977	3000	8.5	.21	1.64	450.5	.64	.61	19.5	.07	.14	295.5	.86	29.96
13346	1	810518	2103	3000	8.5	.17	.83	494.1	.91	.92	17.9	.04	.00	363.7	.71	24.37
13347	1	810518	8407	3000	10.7	.34	2.76	514.3	.59	.60	17.1	.06	.02	394.8	1.19	22.45
14201	1	810408	6979	3000	8.5	.28	1.53	482.0	.82	.73	18.3	.04	.05	332.9	1.83	26.63
14202	1	810415	6746	3500	11.1	.38	1.99	523.6	.95	.86	16.8	.10	.12	375.7	1.54	23.58
14203	1	810415	1328	3500	11.5	3.03	3.16	549.7	.74	.64	15.7	.09	.03	378.7	1.31	23.40
14203	2	810417		3500	11.5	1.63	1.87	526.1	.68	.59	16.6	.07	.02	378.3	1.24	23.43
14203	3	810422		3500	11.5	2.23	1.95	524.8	.56	.54	16.6	.08	.04	363.3	1.10	24.39
14203	4	810610		3500	11.5	.34	2.80	534.2	.63	.61	16.4	.08	.25	369.0	1.09	23.99
14204	1	810421	2747	3500	11.1	.29	1.63	537.0	1.00	.92	16.4	.08	.11	387.9	1.70	22.84
14205	1	810428	2917	3000	9.4	.29	.97	507.5	1.32	1.22	17.4	.08	.00	358.9	2.26	24.69
14206	1	810429	937	3500	11.0	.32	1.60	550.7	.62	.60	16.0	.08	.14	358.8	1.15	24.69
14207	1	810430	6043	3500	11.0	.25	1.37	523.1	1.04	.91	16.9	.06	.05	338.3	1.24	26.19
14208	1	810501	2259	3500	11.0	.22	.87	540.5	1.33	1.15	16.3	.05	.01	352.8	1.41	25.13
14209	1	810504	3701	3000	9.4	.28	1.76	552.6	.92	.78	15.9	.07	.01	453.5	1.61	19.55
14210	1	810501	1500	3500	11.0	.28	1.57	552.3	1.08	.92	16.0	.05	.01	380.2	1.78	23.32
14211	1	810504	5703	3500	11.0	.20	.95	523.6	2.01	1.69	16.9	.04	.00	341.8	2.43	25.93
14212	1	810508	2196	3500	11.0	.31	1.64	552.6	1.15	1.00	15.9	.07	.03	376.8	1.74	23.52
15001	1	810511	5950	3500	11.0	.36	1.98	546.9	.98	.88	16.1	.06	.00	358.8	1.51	24.70
15002	1	810515	5101	3500	11.0	.28	2.04	529.3	1.47	1.38	16.6	.04	.00	340.3	2.28	26.05
15003	1	810617	3344	3500	11.0	.21	1.25	537.5	1.13	1.04	16.4	.05	.01	347.4	1.43	25.52

TABLE 5.12-10 FEDERAL SHORT CYCLE TEST

EPA NO	S	DATE	IW	AHP	HC	CO	CO2	NOX	MPG
11601	1	810312	2250	6.4	.17	.34	270.7	.40	32.6
11602	1	810310	2250	6.4	.95	20.46	252.3	.32	30.8
11603	1	810313	2250	6.4	.29	4.93	294.9	.37	29.2
11604	1	810317	2250	6.4	1.19	26.44	261.4	.32	28.9
11605	1	810313	2250	6.4	2.11	44.08	271.8	.22	25.5
11606	1	810317	2250	6.4	.96	18.38	268.1	.36	29.6
11607	1	810319	2250	6.4	.17	.24	269.8	.56	32.8
11608	1	810319	2250	6.4	.17	.43	280.2	.40	31.5
11609	1	810320	2250	6.4	.29	6.48	288.7	.47	29.6
11610	1	810319	2250	6.4	1.16	20.17	260.0	.50	30.0
11610	2	810326	2250	6.4	2.05	43.31	239.0	.44	28.3
11611	1	810320	2500	6.5	.12	.20	285.7	.98	31.0
11612	1	810323	2250	6.4	.25	1.55	296.5	.51	29.6
11613	1	810324	2250	6.4	1.53	42.55	303.1	.15	23.7
11614	1	810323	2250	6.4	.36	1.48	286.1	.38	30.6
11615	1	810323	2250	6.4	2.14	48.44	281.1	.25	24.4
11616	1	810325	2250	6.4	.16	6.35	303.3	.20	28.3
11616	2	810406	2250	6.4	.39	3.17	272.6	.25	31.8
11617	1	810325	2250	6.4	.22	.99	288.4	.44	30.5
11617	1	810325	2250	6.4	.22	.99	288.4	.44	30.5
11618	1	810325	2250	6.4	.25	1.78	294.0	.38	29.8
11619	1	810327	2250	6.4	.76	13.24	264.3	.37	30.8
11620	1	810326	2250	6.4	1.50	25.29	287.0	.21	26.8
11620	2	810330	2250	6.4	1.15	17.16	283.0	.22	28.3
11620	3	810331	2250	6.4	.71	10.60	274.3	.25	30.2
11621	1	810327	2250	6.4	.63	10.89	281.9	.50	29.5
11622	1	810327	2250	6.4	.91	18.12	273.6	.30	29.1
11623	1	810330	2500	6.5	.27	1.58	288.0	.35	30.4
11624	1	810401	2500	6.5	1.22	21.04	294.8	.25	26.7
11625	1	810330	2250	6.4	.35	4.24	269.2	.31	32.0
11626	1	810401	2250	6.4	.34	1.59	263.6	.30	33.2
11627	1	810331	2500	6.5	.22	1.64	295.0	.37	29.7
11628	1	810401	2250	6.4	.42	4.88	265.3	.31	32.3
11629	1	810402	2250	6.4	.19	1.09	291.4	.42	30.2
11630	1	810402	2500	6.5	.67	16.68	269.1	.42	29.8
11631	1	810402	2250	6.4	1.99	52.42	307.4	.11	22.4
11632	1	810403	2500	6.5	1.20	29.79	260.9	.31	28.5
11633	1	810504	2250	6.4	.45	4.81	647.8	.78	13.5
13301	1	810403	3000	8.5	.14	.34	380.0	.78	23.3
13302	1	810406	3000	8.5	.18	.40	377.6	.78	23.4
13303	1	810406	3000	8.5	.09	.01	394.3	.63	22.5
13304	1	810407	3000	8.5	.11	.03	388.6	1.13	22.8
13305	1	810408	3000	8.5	.25	.87	456.7	.40	19.3

TABLE 5.12-10 FEDERAL SHORT CYCLE TEST (CONT'D)

EPA NO	S	DATE	IW	AHP	HC	CO	CO2	NOX	MPG
13306	1	810408	3000	10.4	.09	.61	386.2	.37	22.9
13307	1	810409	3000	10.4	.30	1.82	388.0	.73	22.6
13308	1	810409	3000	10.4	.14	.24	380.8	.52	23.2
13309	1	810410	3000	10.4	.16	.01	414.3	.43	21.4
13310	1	810410	3000	10.4	.31	2.00	386.6	.37	22.7
13311	1	810410	3000	10.7	.36	3.04	393.9	.51	22.2
13312	1	810414	3000	10.4	.37	1.61	386.8	.46	22.7
13313	1	810413	3500	11.1	.08	.01	406.8	.69	21.8
13314	1	810413	3000	10.7	.23	.78	403.6	.72	21.9
13315	1	810413	3500	11.1	.47	1.23	436.7	.56	20.2
13316	1	810414	3500	11.1	.10	.04	435.3	.67	20.4
14201	1	810408	3000	8.5	.21	1.56	374.6	.82	23.5

TABLE 5.12-11 NEW YORK CITY DRIVING CYCLE TEST

EPA NO	S	DATE	IW	AHP	HC	CO	CO2	NOX	MPG
11634	1	810519	2500	6.5	10.45	133.68	790.7	.88	8.6
11634	2	810812	2500	6.5	2.76	60.47	718.3	.79	10.8
11635	1	810520	2500	6.5	1.14	6.92	673.8	1.14	12.9
11635	2	810609	2500	6.5	1.82	7.91	664.5	.77	13.0
11636	1	810521	2500	6.5	.55	3.47	699.0	1.07	12.6
11637	1	810522	2500	6.5	.72	13.21	642.6	1.11	13.3
11638	1	810526	2500	6.5	3.00	26.25	801.3	.44	10.4
11639	1	810527	2500	6.5	1.01	2.85	680.0	1.42	12.9
11639	2	810602	2500	6.5	1.42	3.28	638.0	1.19	13.7
11640	1	810528	2500	6.5	.90	22.04	730.7	.52	11.5
11641	1	810529	2500	6.5	1.47	23.80	660.7	.77	12.6
11642	1	810601	2250	6.4	.95	14.28	648.7	.90	13.2
11643	1	810602	2250	6.4	3.07	53.66	689.2	.38	11.3
11644	1	810604	2500	6.5	1.90	22.81	721.1	.92	11.6
11645	1	810604	2250	6.4	1.19	10.89	666.7	.57	12.9
11646	1	810605	2500	6.5	1.73	53.08	694.7	.93	11.3
11647	1	810608	2250	6.4	.79	33.83	691.4	.61	11.9
11648	1	810610	2250	6.4	1.81	69.68	678.6	.51	11.2
11649	1	810611	2250	6.4	11.10	129.95	862.3	.16	8.0
11649	2	810615	2250	6.4	.48	4.20	612.3	1.14	14.3
11650	1	810615	2250	6.4	.59	4.63	666.1	.70	13.1
13317	1	810415	3500	11.1	.30	.24	937.9	.21	9.4
13318	1	810416	3000	8.5	.15	.09	843.4	1.27	10.5
13319	1	810416	3000	8.5	.30	.10	870.6	1.60	10.2
13320	1	810416	3500	11.1	.16	.68	953.7	1.72	9.3
13321	1	810417	3500	11.1	.13	2.47	1054.3	1.16	8.4
13322	1	810420	3500	11.1	.17	.51	1207.3	1.73	7.3
13323	1	810420	3000	8.5	.95	.69	1212.9	1.01	7.3
13324	1	810422	3500	11.1	.11	.39	1043.6	.44	8.5
13325	1	810423	3000	10.7	.29	.80	819.9	1.75	10.8
13326	1	810422	3000	8.0	.51	.26	939.8	1.72	9.4
13327	1	810423	3000	10.7	.21	2.32	948.2	.67	9.3
13328	1	810423	3500	10.4	.30	1.79	1032.1	2.05	8.6
1332	1	810424	3000	10.7	.32	.51	935.5	.47	9.5
13330	1	810424	3000	10.7	.26	2.53	908.3	1.86	9.7
13330	2	810427	3000	10.7	.25	1.81	953.9	1.53	9.3

TABLE 5.12-11 NEW YORK CITY DRIVING CYCLE TEST (CONT'D)

EPA NO	S	DATE	IW	AHP	HC	CO	CO2	NOX	MPG
13331	1	810424	3500	11.1	.19	.19	897.5	1.49	9.9
13332	1	810427	3500	11.1	.23	.36	1022.6	2.77	8.7
13333	1	810427	3000	10.7	.19	.04	836.3	2.90	10.6
13334	1	810428	3000	8.0	.62	.28	914.4	.62	9.7
13335	1	810428	3500	11.1	.22	.20	930.5	2.01	9.5
13336	1	810429	3000	8.5	.34	.50	861.0	1.41	10.3
13337	1	810430	3000	8.5	.26	.10	870.2	2.00	10.2
13338	1	810430	3500	11.1	.27	.26	1009.8	1.67	8.8
13339	1	810505	3000	8.5	.59	3.85	868.7	2.34	10.1
13340	1	810506	3000	8.5	.25	1.17	926.1	.21	9.5
13341	1	810507	3500	11.1	.18	.11	935.2	2.10	9.5
13342	1	810508	3500	10.4	.24	.14	931.6	1.31	9.5
13343	1	810512	3000	8.5	.43	.41	899.7	2.34	9.8
13344	1	810513	3000	8.5	.45	1.72	804.4	1.14	11.0
13345	1	810514	3000	8.5	.61	2.19	795.1	1.11	11.1
13346	1	810518	3000	8.5	.18	.03	897.3	2.79	9.9
13347	1	810518	3000	10.7	.31	.24	911.0	1.45	9.7
14202	1	810415	3500	11.1	.63	6.08	1028.7	1.21	8.5
14203	1	810415	3500	11.5	.45	1.24	1106.0	1.73	8.0
14203	2	810417	3500	11.5	.38	1.44	973.1	1.06	9.1
14203	3	810422	3500	11.5	.77	1.25	976.2	.81	9.0
14203	4	810610	3500	11.5	.52	5.93	1030.1	.78	8.5
14204	1	810421	3500	11.1	.55	3.74	1098.8	1.24	8.0
14205	1	810428	3000	9.4	.52	1.67	1050.4	1.72	8.4
14206	1	810429	3500	11.0	.54	1.72	1082.9	.56	8.2
14207	1	810501	3500	11.0	.53	3.46	1082.8	1.12	8.1
14208	1	810501	3500	11.0	.30	.74	1110.1	2.46	8.0
14209	1	810504	3000	9.4	.39	1.16	1053.6	2.03	8.4
14210	1	810501	3500	11.0	.44	2.32	1154.1	1.31	7.7
14211	1	810504	3500	11.0	.30	.42	1095.0	3.39	8.1
14212	1	810508	3500	11.0	.50	2.62	1095.4	1.82	8.1
15001	1	810511	3500	11.0	.35	.07	1044.9	1.82	8.5
15002	1	810515	3500	11.0	.22	.64	1002.0	2.66	8.8
15003	1	810617	3500	11.0	.29	.46	991.7	1.42	8.9

TABLE 5.12-12 PARAMETER AND PROPANE GAIN CHECKS

EPA NO	S	IDLE SPEED MEAS	IDLE SPEED SPEC	TIMING MEAS	TIMING SPEC	MECH ADV MEAS	MECH ADV SPEC	TOTAL ADV MEAS	TOTAL ADV SPEC	TOTAL ADV NEU	GAIN CHECKS DR	GAIN CHECKS NEU	GAIN CHECKS DR	GAIN CHECKS NEU	GAIN CHECKS DR
11601	1	820	900	+14	+10	25	22	43	38	320	N/A	260	N/A	260	N/A
11602	1	960	900	+14	+10	24	22	42	38	150	N/A	190	N/A	140	N/A
11603	1	1160	900	+19	+10	26	21	45	38	390	N/A	360	N/A	320	N/A
11604	1	1010	900	+13	+10	23	22	40	38	280	N/A	250	N/A	310	N/A
11605	1	920	900	+14	+10	27	21	41	38	220	N/A	190	N/A	170	N/A
11606	1	830	900	+13	+10	24	22	42	38	260	N/A	220	N/A	280	N/A
11607	1	780	750	+13	+10	23	21	43	32	230	20	270	60	220	30
11608	1	1140	900	+13	+10	23	25	39	38	230	N/A	240	N/A	390	N/A
11609	1	1410	1150	+19	+10	23	21	42	38	180	N/A	290	N/A	200	N/A
11610	1	880	900	+14	+10	22	21	25	38	240	N/A	300	N/A	280	N/A
11610	2	870	900	+10	+10	19	21	34	38	290	N/A	410	N/A	320	N/A
11611	1	760	750	+12	+10	23	21	42	31	210	20	220	40	190	2(
11612	1	1550	900	+19	+10	23	21	38	38	210	N/A	280	N/A	210	N/A
11613	1	920	900	+10	+10	21	21	41	38	280	N/A	340	N/A	260	N/A
11614	1	840	900	+12	+10	23	21	39	38	270	N/A	340	N/A	230	N/A
11615	1	880	750	+16	+10	23	21	43	31	60	DEC	80	10	80	10
11616	1	1240	900	+16	+10	28	21	43	38	180	N/A	310	N/A	240	N/A
11616	2	930	900	+09	+10	23	22	39	38	130	N/A	140	N/A	120	N/A
11617	1	1100	900	+13	+10	23	21	42	38	180	N/A	280	N/A	250	N/A
11618	1	1080	900	+13	+10	23	21	41	38	280	N/A	240	N/A	290	N/A
11619	1	1110	900	+15	+10	24	22	42	38	200	N/A	260	N/A	240	N/A
11620	1	1010	900	+14	+10	23	21	40	38	180	N/A	130	N/A	110	N/A
11620	2	910	900	+11	+10	23	22	42	38	150	N/A	210	N/A	150	N/A
11621	1	1320	900	+18	+10	30	22	43	38	590	N/A	620	N/A	610	N/A
11622	1	920	900	+15	+10	23	22	40	38	280	N/A	280	N/A	230	N/A
11623	1	870	900	+12	+10	27	22	38	38	300	N/A	320	N/A	300	N/A
11624	1	800	900	+12	+10	23	22	42	38	390	N/A	420	N/A	400	N/A
11625	1	770	900	+13	+10	28	22	43	38	410	N/A	390	N/A	450	N/A
11626	1	910	900	+13	+10	21	22	42	38	340	N/A	400	N/A	320	N/A
11627	1	1130	900	+18	+10	24	22	44	38	310	N/A	320	N/A	250	N/A

TABLE 5.12-12 PARAMETER AND PROPANE GAIN CHECKS (CONT'D)

EPA NO	S	IDLE SPEED MEAS	IDLE SPEED SPEC	TIMING MEAS	TIMING SPEC	MECH ADV MEAS	MECH ADV SPEC	TOTAL ADV MEAS	TOTAL ADV SPEC	GAIN CHECKS NEU	GAIN CHECKS DR	GAIN CHECKS NEU	GAIN CHECKS DR	GAIN CHECKS NEU	GAIN CHECKS DR
11628	1	920	900	+12	+10	24	22	43	38	70	N/A	120	N/A	90	N/A
11629	1	1610	900	+23	+10	24	22	41	38	110	N/A	120	N/A	110	N/A
11630	1	960	900	+17	+10	26	22	43	38	380	N/A	400	N/A	370	N/A
11631	1	890	750	+15	+10	23	22	44	32	110	10	220	20	200	DEC
11632	1	910	900	+12	+10	23	22	38	38	290	N/A	340	N/A	290	N/A
11633	1	880	700	+13	+10	25	22	39	38	270	N/A	280	N/A	240	N/A
11634	1	800	750	+15	+10	25	22	45	32	140	DEC	170	10	140	DEC
11634	2	760	750	+09	+10	20	22	41	32	190	40	280	60	230	30
11635	1	960	900	+15	+10	23	22	40	38	400	N/A	410	N/A	410	N/A
11635	2	840	900	+09	+10	20	22	37	38	170	N/A	210	N/A	200	N/A
11636	1	1190	900	+14	+10	23	22	40	38	80	N/A	90	N/A	60	N/A
11637	1	920	900	+15	+10	24	22	43	38	280	N/A	340	N/A	260	N/A
11638	1	1040	900	+14	+10	24	22	35	38	380	N/A	410	N/A	390	N/A
11639	1	1010	900	+14	+10	23	22	40	38	320	N/A	350	N/A	270	N/A
11639	2	920	900	+10	+10	22	22	36	38	260	N/A	260	N/A	190	N/A
11640	1	1100	900	+14	+10	24	22	41	38	180	N/A	220	N/A	170	N/A
11641	1	910	900	+11	+10	22	22	39	38	480	N/A	530	N/A	480	N/A
11642	1	850	900	+15	+10	24	22	40	38	470	N/A	510	N/A	450	N/A
11643	1	790	750	+13	+10	23	22	44	32	110	DEC	150	10	70	DEC
11644	1	1230	900	+14	+10	23	22	35	38	190	N/A	210	N/A	150	N/A
11645	1	910	700	+14	+10	27	22	45	38	80	N/A	100	N/A	110	N/A
11646	1	810	900	+12	+10	22	22	39	38	240	N/A	290	N/A	260	N/A
11647	1	730	750	+12	+10	21	22	42	32	50	DEC	50	DEC	40	DEC
11648	1	690	750	+12	+10	23	22	44	32	120	DEC	260	50	220	20
11649	1	730	750	+10	+10	19	21	41	32	DEC	DEC	DEC	DEC	DEC	DEC
11649	2	730	750	+10	+10	23	22	43	32	320	70	360	70	320	70
11650	1	900	700	+09	+10	19	22	35	38	250	N/A	DEC	N/A	DEC	N/A
13301	1	590	600	+12	+10	21	19	42	38	10	DEC	10	DEC	10	DEC
13302	1	640	600	+11	+10	20	19	40	38	20	DEC	30	DEC	20	DEC
13303	1	620	600	+11	+10	20	19	36	38	30	DEC	40	DEC	30	DEC
13304	1	690	600	+10	+10	23	19	41	38	10	DEC	10	DEC	10	DEC

TABLE 5.12-12 PARAMETER AND PROPANE GAIN CHECKS (CONT'D)

EPA NO	S	IDLE SPEED MEAS	IDLE SPEED SPEC	TIMING MEAS	TIMING SPEC	MECH ADV MEAS	MECH ADV SPEC	TOTAL ADV MEAS	TOTAL ADV SPEC	GAIN CHECKS NEU	DR	NEU	DR	NEU	DR
13305	1	630	600	+11	+10	19	19	35	38	DEC	DEC	10	DEC	DEC	DEC
13306	1	630	600	+11	+10	19	19	39	38	50	DEC	50	DEC	30	DEC
13307	1	610	600	+12	+10	19	19	42	38	DEC	DEC	DEC	DEC	DEC	DEC
13308	1	550	600	+10	+10	18	19	37	38	20	DEC	40	10	10	DEC
13309	1	600	600	+11	+10	19	19	40	38	10	DEC	30	DEC	10	DEC
13310	1	570	600	+11	+10	20	19	40	38	20	DEC	30	DEC	DEC	DEC
13311	1	590	600	+11	+10	15	19	36	38	10	DEC	20	DEC	10	DEC
13312	1	600	600	+12	+10	22	19	40	38	10	DEC	20	DEC	DEC	DEC
13313	1	600	600	+09	+10	23	19	37	38	DEC	DEC	DEC	DEC	DEC	DEC
13314	1	670	600	+11	+10	20	19	37	38	20	DEC	30	DEC	10	DEC
13315	1	650	600	+11	+10	18	19	37	38	30	DEC	40	DEC	30	DEC
13316	1	640	600	+12	+10	23	19	42	38	20	DEC	30	DEC	10	DEC
13317	1	600	600	+13	+10	22	19	36	38	DEC	DEC	DEC	DEC	DEC	DEC
13318	1	550	600	+12	+10	20	19	39	38	10	DEC	20	DEC	10	DEC
13319	1	600	600	+10	+10	17	19	35	38	30	DEC	50	DEC	10	DEC
13320	1	580	600	+11	+10	20	19	42	38	30	DEC	30	DEC	20	DEC
13321	1	640	600	+12	+10	20	19	35	38	20	DEC	30	DEC	20	DEC
13322	1	730	600	+09	+10	19	19	39	38	20	DEC	10	DEC	DEC	DEC
13323	1	1350	700	+08	+08	15	17	36	37	DEC	N/A	20	N/A	DEC	N/A
13324	1	620	600	+09	+10	17	19	38	38	10	DEC	20	DEC	10	DEC
13325	1	550	600	+12	+10	20	19	38	38	10	DEC	40	DEC	20	DEC
13326	1	1030	700	+11	+08	19	17	37	37	DEC	N/A	DEC	N/A	DEC	N/A
13327	1	580	600	+10	+10	19	19	38	38	DEC	DEC	DEC	DEC	DEC	DEC
13328	1	620	600	+10	+10	17	19	37	38	DEC	DEC	10	DEC	DEC	DEC
13329	1	590	600	+12	+10	20	19	41	38	10	DEC	10	DEC	10	DEC
13330	1	560	600	+12	+10	20	19	41	38	10	DEC	10	DEC	10	DEC
13330	2	610	600	+10	+10	19	19	38	38	10	DEC	10	DEC	10	DEC
13331	1	560	600	+12	+10	19	19	35	38	20	DEC	10	DEC	DEC	DEC
13332	1	670	600	+11	+10	20	19	41	38	DEC	DEC	20	10	10	DEC
13333	1	610	600	+12	+10	20	19	38	38	90	30	130	60	80	30
13334	1	560	600	+11	+10	20	19	40	38	DEC	DEC	10	DEC	10	DEC
13335	1	650	600	+12	+10	20	19	40	38	20	DEC	30	DEC	30	DEC
13336	1	720	700	+08	+08	17	17	37	37	DEC	N/A	DEC	N/A	DEC	N/A

TABLE 5.12-12 PARAMETER AND PROPANE GAIN CHECKS (CONT'D)

EPA NO S	IDLE SPEED MEAS	IDLE SPEED SPEC	TIMING MEAS	TIMING SPEC	MECH ADV MEAS	MECH ADV SPEC	TOTAL ADV MEAS	TOTAL ADV SPEC	GAIN CHECKS NEU	GAIN CHECKS DR	NEU	DR	NEU	DR
13337 1	620	600	+12	+10	22	19	41	38	20	DEC	40	DEC	20	DEC
13338 1	620	600	+11	+10	19	23	38	38	DEC	DEC	DEC	DEC	DEC	DEC
13339 1	790	700	+08	+08	17	17	36	37	30	N/A	40	N/A	20	N/A
13340 1	550	600	+11	+10	19	19	38	38	DEC	DEC	DEC	DEC	DEC	DEC
13341 1	630	600	+11	+10	20	19	40	38	DEC	DEC	10	DEC	10	DEC
13342 1	580	600	+12	+10	20	19	39	38	DEC	DEC	10	DEC	10	DEC
13343 1	910	700	+10	+08	17	17	37	37	DEC	N/A	DEC	N/A	DEC	N/A
13344 1	700	700	+07	+08	17	17	35	37	DEC	N/A	10	N/A	DEC	N/A
13345 1	640	700	+09	+08	17	17	37	37	DEC	N/A	DEC	N/A	DEC	N/A
13346 1	590	600	+12	+10	21	19	41	38	DEC	DEC	20	DEC	10	DEC
13347 1	610	600	+09	+10	19	19	36	38	20	DEC	10	DEC	10	DEC
14201 1	570	500	+09	+10	18	19	43	43	20	DEC	20	DEC	10	DEC
14202 1	530	500	+08	+10	23	19	37	43	20	DEC	30	DEC	30	DEC
14203 1	590	500	+09	+10	18	19	40	43	50	DEC	70	DEC	20	DEC
14203 2	520	500	+10	+10	18	19	39	43	30	DEC	30	DEC	10	DEC
14203 3	510	500	+09	+10	17	19	40	43	10	DEC	20	DEC	DEC	DEC
14203 4	510	500	+10	+10	16	19	41	43	10	DEC	50	DEC	20	DEC
14204 1	540	500	+12	+10	21	19	42	43	50	DEC	70	10	30	DEC
14205 1	560	500	+09	+10	16	19	39	43	30	DEC	50	DEC	20	DEC
14206 1	520	500	+11	+10	27	18	50	42	80	10	110	30	80	10
14207 1	610	500	+08	+10	20	18	39	42	DEC	DEC	20	DEC	DEC	DEC
14208 1	570	500	+05	+10	16	18	41	42	40	DEC	80	10	40	10
14209 1	610	500	+08	+10	16	19	41	43	50	10	60	10	40	10
14210 1	540	500	+09	+10	23	19	46	43	DEC	DEC	20	DEC	DEC	DEC
14211 1	660	500	+10	+10	23	18	43	42	40	DEC	60	10	30	DEC
14212 1	590	500	+06	+10	16	19	41	43	20	DEC	40	10	10	DEC
15001 1	520	500	+09	+10	17	18	41	42	40	DEC	60	DEC	30	DEC
15002 1	570	500	+09	+10	19	18	46	42	80	10	130	30	70	10
15003 1	500	500	+10	+10	17	18	41	42	70	DEC	60	DEC	40	DEC

TABLE 5.12-13

DIAGNOSIS and MAINTENANCE of REPAIRED VEHICLES

EPA No.	Initial Diagnosis	Failure Mode	Repairs	Comments
11610	Timing, Vacuum Advance, Vacuum Hose routing	FTP: HC, CO	Reconnected Vacuum Advance Line to Vent Control Valve and Adjusted Idle Speed and Timing	Significant reduction of HC and CO emissions, but still above Fed. Standards
11616	Idle Speed, Timing	FTP: HC	Adjusted Idle Speed & Timing	37% reduction of HC emissions, but still above Fed. Standards
11620	Idle Speed, Timing	FTP: CO	Adjusted Idle Speed & Timing	No Improvement
11634	Timing	Four Mode (2500): CO Two Mode (30 MPH): CO	Replaced Carburetor Needle Seat assembly, Adjusted Carb. Float, Idle Speed and Timing	Short Test failures cleared, but no improvement of FTP emissions
11635	Timing	FTP: HC	Adjusted Carburetor, Idle Speed and Timing	45% reduction of HC emissions, but still above Fed. Standards
11639	Idle Speed, Timing	FTP: HC	Adjusted Idle Speed & Timing	19% reduction of HC emissions, but still above Fed. Standards
11649	Air Filter	FTP: CO Four Mode (2500): CO Four Mode (Idle in Gear): CO Two Mode (30 MPH): CO	Adjusted Carburetor Float, Replaced Air Filter, and Adjusted Idle Speed and Air-Fuel ratio	72% reduction of CO emissions, meets Fed. Standards
11330	EGR Vacuum Hose disconnected	None	Connected EGR Vacuum Hose to Valve	No improvement

Table 5.12-13 (Cont'd)

EPA No.	Initial Diagnosis	Failure Mode	Repairs	Comments
14203	Idle Speed, Vacuum Hose for Exhaust Heat Control Valve disconnected	FTP: HC	1st Repair: Reconnected Vacuum Hose, Adjusted Idle Speed & Timing	Significant reduction of HC emissions, but still well above Federal Standards
	(subsequent diagnosis found internal fuel leak in carburetor)		2nd Repair: Replaced Distributor Cap and Rotor	No improvement
			3rd Repair: Dealer replaced Carburetor	HC emissions reduced to Fed. Standards

Table 5.12-14

Analysis of Local Commercial Fuels

No.	Brand Name	Location	Specific Gravity @ 60°F	Lead Content Pb gms./gal.
1	ARCO	23rd & W. Burnside	.744	0.0060
2	ARCO	12th & N.E. Weidler	.744	0.0064
3	ARCO	38th & S.E. Belmont	.744	------
4	CHEVRON	4th & W. Burnside	.738	0.0049
5	CHEVRON	Grand & N.E. Broadway	.745	0.0053
6	CHEVRON	32nd & N.E. Sandy	.742	------
7	EXXON	Grand & N.E. Broadway	.740	0.0064
* 8	EXXON	25th & S.E. Powell	.739	0.0068
9	EXXON	65th & N.E. Glisan	.737	------
10	MOBIL	Grand & N.E. Broadway	.745	0.0072
11	MOBIL	60th & N.E. Glisan	.743	------
12	MUSTANG	42nd & N. Interstate	.747	0.0060
13	MUSTANG	59th & N.E. Halsey	.742	------
*14	ROCKET	19th & S.E. Hawthorne	.746	0.0064
15	ROCKET	48th & S.E. Stark	.743	------
16	SHELL	19th & W. Burnside	.740	0.0057
17	SHELL	Union & N.E. Weidler	.740	0.0049
18	SHELL	59th & N.E. Halsey	.740	------
19	TEXACO	7th & N.E. Holladay	.737	0.0064
20	TEXACO	44th & N.E. Glisan	.737	------
21	UNION	4th & W. Burnside	.755	0.0057
22	UNION	18th & N.W. Lovejoy	.755	0.0064
23	UNION	69th & N.E. Glisan	.752	------
24	WESTERN	21st & N.W. Marshall	.740	0.0083
25	WESTERN	39th & S.E. Powell	.750	------

* Gasolines selected by EPA to be used for test.

TABLE 5.12-15 TWO MODE & 50 MPH CRUISE TESTS

CONDITION	--TWO MODE (30MPH)-- -----LAB---- HC	CO	NOX	GARAGE HC	CO	--TWO MODE (IDLE)--- ----LAB---- HC	CO	NOX	GARAGE HC	CO	---50 MPH CRUISE---- -----LAB---- HC	CO	NOX	GARAGE HC	CO
FORD ESCORT - 1.6 LITER (EPA NO. 11633)															
INDOLENE-1	293	.0	145	33	.0	67	.0	28	9	.0	327	.0	150	27	.0
INDOLENE-2		.0	170	22	.0		.0	40	6	.0		.0	167	26	.0
ROCKET -1		.0	129	33	.0		.0	40	6	.0		.0	175	33	.0
ROCKET -2		.1	123	28	.0		.0	22	16	.0		.0	47	200	.0
EXXON -1		.0	182	30	.0		.0	43	8	.0		.1	129	38	.0
EXXON -2		.0	232	1	.0		.0	39	0	.0		.0	199	26	.0
GASOHOL -1		.0	155	23	.0		.0	39	0	.0		.1	91	16	.1
GASOHOL -2		.0	234	12			.0	38	6			.0	163	25	.0
EGR DISC-1		.0	1345	3	.0		.0	87	0	.0		.0	453	2	.0
EGR DISC-2		.0	810	23	.0		.0	55	8	.0		.0	308	36	.1
A/P DISC-1		1.4	87	148	1.7		.0	79	22	.0		1.3	87	130	1.5
A/P DISC-2		.4	83	101	.6		.0	79	16	.0		.2	103	36	.1
INDOLENE-3		.0	91	19	.0		.0	43	8	.0		.0	119	29	.0
FORD FAIRMONT - 3.3 LITER (EPA NO. 13347)															
INDOLENE-1	91	.0	170	9	.0	143	.0	60	8	.0	48	.0	230	1	.0
INDOLENE-2	109	.0	220	12	.0	149	.0	50	10	.0	262	.0	338	15	.0
ROCKET -1	82	.0	193	12	.0	100	.0	55	10	.0	48	.0	268	4	.0
ROCKET -2	63	.0	183	10	.0	97	.0	60	10	.0	30	.0	235	2	.0
EXXON -1	67	.0	183	10	.0	94	.0	50	10	.0	48	.0	255	7	.0
EXXON -2	91	.0	178	12	.0	94	.0	75	9	.0	36	.0	250	2	.0
GASOHOL -1	94	.0	175	12	.0	88	.0	43	10	.0	39	.0	218	3	.0
GASOHOL -2	88	.0	200	12	.0	112	.0	50	10	.0	60	.0	385	5	.0
EGR DISC-1	100	.0	1251	19	.0	109	.0	88	10	.0	45	.0	1113	8	.0
EGR DISC-2	94	.0	1376	19	.0	115	.0	150	10	.0	39	.0	1033	7	.0
A/P DISC-1	1807	.5	35	136	.6	4938	2.4	8	275	2.3	2664	1.9	50	156	1.8
A/P DISC-2	510	.0	108	44	.1	4627	2.3	5	255	2.1	2701	1.9	45	158	1.9
INDOLENE-3	97	.0	240	14	.0	128	.0	70	11	.0	79	.0	285	3	.0

TABLE 5.12-15 TWO MODE & 50 MPH CRUISE TESTS (CONT'D)

CONDITION	--TWO MODE (30MPH)-- -----LAB---- HC	CO	NOX	GARAGE HC	CO	--TWO MODE (IDLE)--- ----LAB---- HC	CO	NOX	GARAGE HC	CO	---50 MPH CRUISE---- -----LAB---- HC	CO	NOX	GARAGE HC	CO
FORD FAIRMONT - 4.2 LITER (EPA NO. 14213)															
INDOLENE-1	97	.0	275	11	.0	51	.0	70	8	.0	91	.0	283	9	.0
INDOLENE-2	79	.0	205	11	.0	45	.0	80	5	.0	85	.0	155	1	.0
ROCKET -1	94	.0	330	15	.0	48	.0	78	5	.0	79	.0	250	4	.0
ROCKET -2	76	.0	375	15	.0	42	.0	103	7	.0	54	.0	293	3	.0
EXXON -1	79	.0	355	16	.0	33	.0	75	7	.0	57	.0	305	6	.0
EXXON -2	82	.0	338	14	.0	33	.0	80	4	.0	60	.0	255	0	.0
GASOHOL -1	70	.0	380	17	.0	36	.0	80	8	.0	57	.0	380	7	.0
GASOHOL -2	76	.0	400	15	.0	48	.0	75	8	.0	51	.0	370	0	.0
EGR DISC-1	88	.0	1596	21	.0	48	.0	133	7	.0	63	.0	1676	16	.0
EGR DISC-2	88	.0	1201	24	.0	36	.0	48	10	.0	63	.0	1163	21	.0
A/P DISC-1	306	.0	526	10	.0	4767	2.8	13	273	2.8	112	.0	501	7	.0
A/P DISC-2	354	.0	626	35	.0	4617	2.5	8	270	2.5	220	.0	608	22	.0
INDOLENE-3	63	.0	345	15	.0	42	.0	55	7	.0	85	.0	330	9	.0
FORD THUNDERBIRD - 5.0 LITER (EPA NO. 15003)															
INDOLENE-1	63	.0	290	11	.0	39	.0	80	7	.0	57	.0	310	6	.0
INDOLENE-2	63	.0	283	11	.0	36	.0	73	7	.0	57	.0	288	5	.0
ROCKET -1	70	.0	138	10	.0	33	.0	68	6	.0	57	.0	33	5	.0
ROCKET -2	63	.0	243	12	.0	33	.0	65	7	.0	51	.0	105	9	.0
EXXON -1	63	.0	215	11	.0	33	.0	70	7	.0	54	.0	233	4	.0
EXXON -2	63	.0	185	10	.0	36	.0	75	7	.0	57	.0	183	5	.0
GASOHOL -1	63	.0	257	13	.0	48	.0	78	9	.0	48	.0	150	4	.0
GASOHOL -2	82	.0	315	10	.0	60	.0	78	5	.0		.0	528	24	.0
EGR DISC-1	88	.0	1001	18	.0	51	.0	90	9	.0	63	.0	1176	12	.0
EGR DISC-2		.0	1172	16			.0	119	8			.0	1414	14	
A/P DISC-1		.0	372	27			.7	27	272			.0	461	18	
A/P DISC-2		.0	429	28			.3	2	295			.0	486	16	
INDOLENE-3		.0	252	11			.0	63	7			.0	343	15	

TABLE 5.12-16 FOUR MODE TEST

CONDITION	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	------2500 RPM------ ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE IN GEAR---- ----LAB---- HC	CO	NOX	GARAGE HC	CO
FORD ESCORT - 1.6 LITER (EPA NO. 11633)																					
INDOLENE-1	948	.0	10	68	.0	357	.0	28	31	.0	94	.0	45	8	.0						
INDOLENE-2		.0	46	14	.0		.0	51	11	.0		.0	53	7	.0						
ROCKET -1		.0	73	12	.0		.0	80	8	.0		.0	51	6	.0						
ROCKET -2		.0	80	12	.0		.0	38	8	.0		.0	51	6	.0						
EXXON -1		.0	80	13	.0		.0	21	15	.0		.0	52	7	.0						
EXXON -2		.0	51	0	.0		.0	111	0	.0		.0	51	0	.0						
GASOHOL -1		.0	35	103	.0		.0	107	9	.0		.0	47	1	.0						
GASOHOL -2		.0	47	3	.0		.0	59	3	.0		.0	47	0	.0						
EGR DISC-1		.0	39	10	.0		.0	83	0	.0		.0	63	2	.0						
EGR DISC-2		.0	35	21	.0		.0	119	14	.0		.0	51	11	.0						
A/P DISC-1		.2	31	203	.2		.0	175	73	.1		.0	87	31	.0						
A/P DISC-2		.0	51	11	.0		.0	95	11	.0		.0	63	9	.0						
INDOLENE-3		.0	43	28	.0		.0	51	32	.0		.0	47	12	.0						
FORD FAIRMONT - 3.3 LITER (EPA NO. 13347)																					
INDOLENE-1	5359	2.8	23	309	2.7	247	.0	50	20	.0	140	.0	40	9	.0	119	.0	53	7	.0	
INDOLENE-2	4196	2.5	5	226	2.4	287	.0	53	27	.0	158	.0	40	13	.0	155	.0	75	12	.0	
ROCKET -1	3815	1.5	10	227	1.5	339	.0	50	32	.0	137	.0	43	12	.0	125	.0	110	10	.0	
ROCKET -2	4948	3.2	20	295	3.1	302	.0	50	27	.0	149	.0	45	13	.0	284	.0	20	26	.0	
EXXON -1	3745	2.0	5	218	2.0	88	.0	53	29	.0	30	.0	40	9	.0	30	.0	70	9	.0	
EXXON -2	4065	1.8	18	224	1.8	272	.0	55	22	.0	119	.0	45	9	.0	115	.0	100	9	.0	
GASOHOL -1	2444	.7	3	157	.7	226	.0	45	21	.0	82	.0	38	8	.0	88	.0	143	9	.0	
GASOHOL -2	3895	1.8	20	220	1.7	259	.0	53	17	.0	106	.0	48	10	.0	134	.0	110	10	.0	
EGR DISC-1	3394	1.5	23	192	1.4	119	.0	320	14	.0	119	.0	58	10	.0	143	.0	103	11	.0	
EGR DISC-2	5118	2.6	33	280	2.5	106	.0	355	31	.0	60	.0	50	17	.0	51	.0	80	14	.0	
A/P DISC-1	5108	2.4	28	280	2.3	3013	1.0	25	176	1.1	4857	2.5	5	250	2.4	4316	2.7	18	272	2.5	
A/P DISC-2	4968	2.0	20	280	2.0	3324	1.1	23	182	1.2	4918	2.1	5	261	2.1	4496	2.6	10	284	2.4	
INDOLENE-3	4938	2.0	20	274	2.0	317	.0	53	28	.0	167	.0	43	13	.0	155	.0	85	12	.0	

TABLE 5.12-16 FOUR MODE TEST (CONT'D)

CONDITION	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	------2500 RPM------ ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE IN GEAR---- ----LAB---- HC	CO	NOX	GARAGE HC	CO
FORD FAIRMONT - 4.2 LITER (EPA NO. 14213)																					
INDOLENE-1	5329	2.4	8	301	2.3	311	.0	60	28	.0	115	.0	58	11	.0	186	.0	85	13	.0
INDOLENE-2	4657	1.7	13	261	1.7	287	.0	55	27	.0	119	.0	65	10	.0	149	.0	90	10	.0
ROCKET -1	4356	2.0	8	255	1.9	360	.0	50	30	.0	155	.0	68	13	.0	180	.0	125	16	.0
ROCKET -2	4506	1.9	13	249	1.8	204	.0	75	15	.0	94	.0	70	9	.0	119	.0	105	9	.0
EXXON -1	4617	2.0	13	262	2.0	290	.0	63	21	.0	137	.0	50	12	.0	149	.0	93	12	.0
EXXON -2	4617	1.8	23	255	1.8	256	.0	58	17	.0	119	.0	63	8	.0	152	.0	118	10	.0
GASOHOL -1	1122	.7	13	233	.7	155	.0	65	15	.0	82	.0	55	9	.0	82	.0	110	10	.0
GASOHOL -2	3524	.8	18	213	.8	256	.0	58	25	.0	119	.0	50	11	.0	91	.0	113	10	.0
EGR DISC-1	5058	1.8	23	278	1.8	226	.0	200	16	.0	112	.0	78	9	.0	137	.0	105	9	.0
EGR DISC-2	4897	2.0	15	273	1.9	128	.0	195	15	.0	67	.0	35	10	.0	149	.0	53	14	.0
A/P DISC-1	5118	2.8	40	277	2.7	265	.0	90	14	.0	4657	2.5	13	257	2.4	4426	2.6	8	290	2.5
A/P DISC-2	4867	2.5	30	274	2.4	547	.1	80	45	.1	4537	2.2	8	259	2.1	4146	2.3	8	285	2.1
INDOLENE-3	5278	2.2	38	304	2.2	302	.0	68	26	.0	134	.0	70	11	.0	171	.0	93	12	.0
FORD THUNDERBIRD - 5.0 LITER (EPA NO. 15003)																					
INDOLENE-1	975	.0	13	83	.0	76	.0	90	4	.0	42	.0	80	6	.0	42	.0	95	6	.0
INDOLENE-2	2214	.1	13	186	.2	128	.0	78	14	.0	57	.0	70	7	.0	57	.0	75	8	.0
ROCKET -1	3795	1.0	5	244	.8	210	.0	28	18	.0	70	.0	53	7	.0	63	.0	73	7	.0
ROCKET -2	2905	.7	3	220	.5	149	.0	33	15	.0	57	.0	48	9	.0	57	.0	70	10	.0
EXXON -1	2492	.2	10	226	.4	171	.0	43	16	.0	63	.0	55	8	.0	57	.0	78	7	.0
EXXON -2	302	.0	15	27	.0	106	.0	30	9	.0	42	.0	53	4	.0	45	.0	75	6	.0
GASOHOL -1	259	.0	12	22	.0	76	.0	89	10	.0	48	.0	70	9	.0	36	.0	86	9	.0
GASOHOL -2	272	.0	13	22	.0	100	.0	75	9	.0	88	.0	68	9	.0	76	.0	98	8	.0
EGR DISC-1	1618	.1	20	155	.1	97	.0	193	10	.0	63	.0	58	8	.0	76	.0	68	10	.0
EGR DISC-2		.8	27	302			.0	187	20			.0	79	12			.0	79	10	
A/P DISC-1		.4	10	328			.0	95	19			.5	27	286			.4	18	276	
A/P DISC-2		1.3	7	384			.0	132	20			1.3	2	349			1.3	1	359	
INDOLENE-3		.5	1	377			.0	81	23			.0	62	12			.0	78	10	

TABLE 5.12-17 SECOND FOUR MODE TEST

CONDITION	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	------2500 RPM------ ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE IN GEAR---- ----LAB---- HC	CO	NOX	GARAGE HC	CO
FORD ESCORT - 1.6 LITER (EPA NO. 11633)																					
INDOLENE-1	223	.0	23	22	.0	161	.0	30	20	.0	88	.0	25	11	.0						
INDOLENE-2		.0	10	10	.0		.0	58	11	.0		.0	33	9	.0						
ROCKET -1		.0	22	26	.0		.0	146	9	.0		.0	32	8	.0						
ROCKET -2		.0	38	12	.0		.0	39	38	.0		.0	34	10	.0						
EXXON -1		.1	1	142	.0		.0	64	29	.0		.0	36	14	.0						
EXXON -2		.0	14	11	.0		.0	111	0	.0		.0	39	0	.0						
GASOHOL -1		.0	35	12	.0		.0	43	1	.0		.0	39	0	.0						
GASOHOL -2		.0	31	11	.0		.0	43	0	.0		.0	35	2	.0						
EGR DISC-1		.0	14	14	.0		.0	79	5	.0		.0	47	26	.0						
EGR DISC-2		.0	35	54	.0		.0	111	17	.0		.0	39	18	.0						
A/P DISC-1		.0	31	23	.0		.0	211	16	.0		.0	67	16	.0						
A/P DISC-2		.2	6	148	.2		.0	127	24	.0		.0	47	18	.0						
INDOLENE-3		.1	23	55	.0		.0	43	39	.0		.0	43	12	.0						
FORD FAIRMONT - 3.3 LITER (EPA NO. 13347)																					
INDOLENE-1	198	.0	33	10	.0	143	.0	50	12	.0	85	.0	43	7	.0	94	.0	63	7	.0	
INDOLENE-2	201	.0	33	13	.0	180	.0	50	16	.0	106	.0	43	10	.0	125	.0	88	10	.0	
ROCKET -1	119	.0	33	10	.0	125	.0	53	14	.0	60	.0	45	9	.0	85	.0	110	10	.0	
ROCKET -2	119	.0	25	11	.0	94	.0	43	10	.0	63	.0	38	10	.0	63	.0	38	9	.0	
EXXON -1	192	.0	30	14	.0	97	.0	53	11	.0	57	.0	45	8	.0	91	.0	118	10	.0	
EXXON -2	122	.0	38	10	.0	106	.0	55	13	.0	57	.0	45	8	.0	82	.0	118	10	.0	
GASOHOL -1	100	.0	33	10	.0	134	.0	50	15	.0	54	.0	43	8	.0	67	.0	168	9	.0	
GASOHOL -2	186	.0	30	13	.0	140	.0	53	16	.0	60	.0	43	9	.0	109	.0	110	10	.0	
EGR DISC-1	198	.0	40	13	.0	60	.0	303	10	.0	106	.0	50	11	.0	140	.0	108	12	.0	
EGR DISC-2	51	.0	33	13	.0	24	.0	305	11	.0	36	.0	50	12	.0	45	.0	83	10	.0	
A/P DISC-1	4757	2.1	25	265	2.0	2963	1.0	20	175	1.0	4837	2.2	5	247	2.1	4396	2.6	20	280	2.4	
A/P DISC-2	5048	1.9	18	293	1.8	2070	.3	15	135	.5	4877	2.1	5	242	2.0	4276	2.5	8	267	2.3	
INDOLENE-3	171	.0	38	14	.0	152	.0	55	19	.0	94	.0	45	11	.0	106	.0	103	11	.0	

TABLE 5.12-17 SECOND FOUR MODE TEST (CONT'D)

CONDITION	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	------2500 RPM------ ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE IN GEAR---- ----LAB---- HC	CO	NOX	GARAGE HC	CO
FORD FAIRMONT - 4.2 LITER (EPA NO. 14213)																					
INDOLENE-1	128	.0	50	17	.0	100	.0	70	15	.0	57	.0	60	11	.0	137	.0	95	13	.0
INDOLENE-2	76	.0	50	9	.0	125	.0	58	8	.0	54	.0	60	8	.0	103	.0	90	9	.0
ROCKET -1	201	.0	48	22	.0	112	.0	65	13	.0	70	.0	70	10	.0	128	.0	115	13	.0
ROCKET -2	73	.0	53	9	.0	79	.0	63	10	.0	42	.0	58	7	.0	91	.0	93	9	.0
EXXON -1	94	.0	45	13	.0	100	.0	53	11	.0	51	.0	48	9	.0	97	.0	80	12	.0
EXXON -2	97	.0	35	10	.0	82	.0	50	10	.0	51	.0	58	6	.0	94	.0	105	9	.0
GASOHOL -1	143	.0	33	19	.0	79	.0	70	12	.0	57	.0	55	10	.0	70	.0	130	12	.0
GASOHOL -2	94	.0	40	13	.0	57	.0	73	9	.0	54	.0	53	9	.0	57	.0	113	10	.0
EGR DISC-1	79	.0	45	10	.0	48	.0	193	7	.0	51	.0	75	8	.0	100	.0	100	10	.0
EGR DISC-2	149	.0	23	21	.0	54	.0	168	11	.0	51	.0	33	10	.0	131	.0	45	15	.0
A/P DISC-1	5419	2.5	8	325	2.4	443	.0	95	36	.0	1067	.3	8	88	.3	1052	.4	8	96	.4
A/P DISC-2	5068	2.3	5	312	2.2	443	.0	68	35	.0	4597	2.2	5	274	2.0	4296	2.1	5	295	2.1
INDOLENE-3	88	.0	48	11	.0	88	.0	70	12	.0	57	.0	68	9	.0	109	.0	90	11	.0
FORD THUNDERBIRD - 5.0 LITER (EPA NO. 15003)																					
INDOLENE-1	103	.0	48	16	.0	63	.0	88	9	.0	36	.0	70	8	.0	45	.0	78	8	.0
INDOLENE-2	112	.0	30	15	.0	63	.0	73	9	.0	39	.0	58	8	.0	57	.0	70	8	.0
ROCKET -1	106	.0	30	15	.0	76	.0	35	9	.0	33	.0	60	7	.0	48	.0	78	8	.0
ROCKET -2	143	.0	30	22	.0	82	.0	55	10	.0	39	.0	55	8	.0	48	.0	73	9	.0
EXXON -1	94	.0	43	13	.0	79	.0	60	9	.0	36	.0	63	7	.0	42	.0	70	8	.0
EXXON -2	112	.0	38	17	.0	70	.0	60	9	.0	42	.0	60	8	.0	39	.0	83	8	.0
GASOHOL -1	134	.0	48	25	.0	70	.0	87	10	.0	45	.0	69	9	.0	39	.0	83	9	.0
GASOHOL -2	158	.0	48	17	.0	79	.0	75	7	.0	76	.0	75	7	.0	60	.0	103	6	.0
EGR DISC-1	149	.0	28	22	.0	63	.0	213	10	.0	60	.0	55	11	.0	79	.0	55	12	.0
EGR DISC-2		.0	39	11			.0	179	10			.0	83	8			.0	79	8	
A/P DISC-1		.1	14	260			.0	51	26			.5	27	254			.4	27	276	
A/P DISC-2		.5	1	408			.0	96	34			.9	1	35			1.0	1	37	
INDOLENE-3		.0	44	15			.0	81	8			.0	65	6			.0	68	7	

TABLE 5.12-18 FOUR MODE TEST - SPARK PLUG DISABLED

CONDITION	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	------2500 RPM------ ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE IN GEAR---- ----LAB---- HC	CO	NOX	GARAGE HC	CO
FORD ESCORT - 1.6 LITER (EPA NO. 11633)																						
INDOLENE-1	449	.0	45	59	.0	403	.0	180	55	.0	216	.0	75	29	.0							
INDOLENE-2		.0	43	53	.0		.0	87	42	.0		.0	60	18	.0							
ROCKET -1		.0	43	57	.0		.0	82	39	.0		.0	62	19	.0							
ROCKET -2		.0	35	31	.0		.0	3	43	.0		.0	45	13	.0							
EXXON -1		.0	43	44	.0		.0	8	54	.0		.0	61	19	.0							
EXXON -2		.0	39	10	.0		.0	147	25	.0		.0	59	1	.0							
GASOHOL -1		.0	35	24	.0		.0	111	31	.0		.0	39	7	.0							
GASOHOL -2		.0	41	46			.0	84	40			.0	58	19								
EGR DISC-1		.0	47	92	.0		.0	127	69	.0		.0	47	22	.0							
EGR DISC-2		.0	51	119	.0		.0	236	73	.0		.0	75	28	.0							
A/P DISC-1		.0	75	28	.0		.0	332	100	.0		.0	107	17	.0							
A/P DISC-2		.0	59	45	.0		.0	292	50	.0		.0	87	19	.0							
INDOLENE-3		.0	43	61	.0		.0	159	56	.0		.0	67	27	.0							
FORD FAIRMONT - 3.3 LITER (EPA NO. 13347)																						
INDOLENE-1	171	.0	43	11	.0	39	.0	68	6	.0	18	.0	53	2	.0	88	.0	65	6	.0		
INDOLENE-2	128	.0	43	11	.0	73	.0	73	9	.0	30	.0	50	4	.0	36	.0	110	6	.0		
ROCKET -1	174	.0	48	17	.0	63	.0	83	12	.0	27	.0	48	7	.0	57	.0	115	11	.0		
ROCKET -2	149	.0	35	16	.0	48	.0	78	10	.0	24	.0	50	7	.0	455	.0	10	39	.0		
EXXON -1	140	.0	48	13	.0	48	.0	73	10	.0	11	.0	55	6	.0	171	.0	50	16	.0		
EXXON -2	171	.0	50	16	.0	67	.0	85	11	.0	24	.0	53	6	.0	30	.0	150	10	.0		
GASOHOL -1	348	.0	48	40	.0	128	.0	75	19	.0	33	.0	55	6	.0	36	.0	230	10	.0		
GASOHOL -2	180	.0	40	17	.0	45	.0	73	9	.0	15	.0	53	5	.0	24	.0	110	4	.0		
EGR DISC-1	149	.0	53	14	.0	33	.0	438	11	.0	21	.0	68	7	.0	45	.0	98	10	.0		
EGR DISC-2	88	.0	48	11	.0	33	.0	451	10	.0	27	.0	75	6	.0	48	.0	88	9	.0		
A/P DISC-1	9999	.6	5	1350	.5	4797	.5	8	334	.5	7103	1.1	3	407	1.0	9999	1.0	3	722	.9		
A/P DISC-2	9999	.4	5	1402	.4	4035	.4	5	305	.4	6161	1.3	3	351	1.2	8607	1.1	3	595	.9		
INDOLENE-3	180	.0	50	16	.0	67	.0	88	11	.0	27	.0	58	7	.0	30	.0	108	8	.0		

TABLE 5.12-18 FOUR MODE TEST - SPARK PLUG DISABLED (CONT'D)

CONDITION	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	------2500 RPM------ ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE IN GEAR---- ----LAB---- HC	CO	NOX	GARAGE HC	CO
FORD FAIRMONT - 4.2 LITER (EPA NO. 14213)																					
INDOLENE-1	112	.0	63	18	.0	357	.0	80	48	.0	42	.0	80	8	.0	119	.0	110	10	.0
INDOLENE-2	180	.0	70	25	.0	394	.0	65	48	.0	33	.0	78	4	.0	103	.0	98	6	.0
ROCKET -1	492	.0	75	74	.0	507	.0	83	71	.0	51	.0	100	6	.0	125	.0	125	8	.0
ROCKET -2	363	.0	78	57	.0	455	.0	75	64	.0	33	.0	83	6	.0	88	.0	118	6	.0
EXXON -1	385	.0	83	53	.0	348	.0	78	49	.0	24	.0	73	5	.0	85	.0	85	7	.0
EXXON -2	363	.0	90	55	.0	278	.0	70	35	.0	27	.0	75	4	.0	79	.0	103	3	.0
GASOHOL -1	348	.0	68	54	.0	305	.0	110	49	.0	48	.0	80	9	.0	57	.0	193	10	.0
GASOHOL -2	320	.0	75	52	.0	357	.0	80	54	.0	33	.0	90	8	.0	54	.0	153	7	.0
EGR DISC-1	302	.0	90	49	.0	333	.0	333	49	.0	33	.0	120	5	.0	79	.0	130	6	.0
EGR DISC-2	351	.0	53	60	.0	296	.0	280	45	.0	33	.0	80	9	.0	106	.0	95	10	.0
A/P DISC-1	9999	.2	8	1175	.2	516	.0	118	55	.0	9999	.9	5	1169	.8	9999	1.0	5	1288	.9
A/P DISC-2	1734	.1	3	198	.1	333	.0	155	38	.0	9999	.8	18	1197	.7	9999	1.0	8	1399	.9
INDOLENE-3	516	.0	40	77	.0	293	.0	75	39	.0	33	.0	78	7	.0	109	.0	68	7	.0
FORD THUNDERBIRD - 5.0 LITER (EPA NO. 15003)																					
INDOLENE-1	171	.0	70	25	.0	281	.0	150	40	.0	36	.0	93	7	.0	45	.0	148	7	.0
INDOLENE-2	82	.0	63	13	.0	82	.0	103	11	.0	24	.0	95	6	.0	33	.0	153	7	.0
ROCKET -1	128	.0	73	19	.0	216	.0	65	30	.0	27	.0	80	6	.0	57	.0	120	7	.0
ROCKET -2	161	.0	75	29	.0	256	.0	113	37	.0	27	.0	95	7	.0	39	.0	130	8	.0
EXXON -1	210	.0	60	33	.0	272	.0	73	38	.0	27	.0	73	6	.0	24	.0	108	5	.0
EXXON -2	112	.0	75	19	.0	210	.0	98	29	.0	30	.0	93	7	.0	30	.0	150	7	.0
GASOHOL -1	180	.0	93	12	.0	253	.0	142	29	.0	36	.0	92	7	.0	33	.0	152	6	.0
GASOHOL -2	137	.0	70	16	.0	223	.0	150	29	.0	54	.0	105	4	.0	45	.0	170	4	.0
EGR DISC-1	192	.0	55	29	.0	333	.0	340	48	.0	39	.0	83	8	.0	45	.0	100	8	.0
EGR DISC-2		.0	79	16			.0	396	32			.0	103	6			.0	91	6	
A/P DISC-1		.0	29	29			.0	21	21			.0	22	22			.0	12	12	
A/P DISC-2		.0	39	28			.0	187	19			.0	28	9			.0	63	7	
INDOLENE-3		.0	68	14			.0	132	32			.0	80	4			.0	105	4	

TABLE 5.12-19 MODIFIED IDLE TEST

CONDITION	2500 RPM					IDLE NEUTRAL					IDLE IN GEAR				
	LAB			GARAGE		LAB			GARAGE		LAB			GARAGE	
	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
FORD ESCORT - 1.6 LITER (EPA NO. 11633)															
INDOLENE-1	79	.0	70	10	.0	82	.0	30	10	.0					
INDOLENE-2		.0	55	8	.0		.0	26	8	.0					
ROCKET -1		.0	139	9	.0		.0	26	9	.0					
ROCKET -2		.0	28	33	.0		.0	22	11	.0					
EXXON -1		.0	26	13	.0		.0	12	8	.0					
EXXON -2		.0	127	0	.0		.0	39	1	.0					
GASOHOL -1		.0	31	0	.0		.0	35	0	.0					
GASOHOL -2		.0	68	7			.0	31	7						
EGR DISC-1		.0	119	0	.0		.0	47	13	.0					
EGR DISC-2		.0	151	8	.0		.0	43	18	.0					
A/P DISC-1		.0	207	9	.0		.0	67	10	.0					
A/P DISC-2		.0	147	10	.0		.0	39	13	.0					
INDOLENE-3		.0	43	23	.0		.0	39	10	.0					
FORD FAIRMONT - 3.3 LITER (EPA NO. 13347)															
INDOLENE-1	91	.0	50	8	.0	79	.0	45	6	.0	85	.0	68	6	.0
INDOLENE-2	97	.0	55	9	.0	88	.0	38	7	.0	109	.0	75	9	.0
ROCKET -1	76	.0	58	9	.0	63	.0	45	8	.0	76	.0	110	9	.0
ROCKET -2	67	.0	55	10	.0	63	.0	45	9	.0	63	.0	40	8	.0
EXXON -1	63	.0	68	9	.0	70	.0	43	8	.0	100	.0	85	10	.0
EXXON -2	63	.0	55	9	.0	57	.0	48	8	.0	82	.0	125	9	.0
GASOHOL -1	76	.0	58	9	.0	54	.0	45	7	.0	76	.0	200	10	.0
GASOHOL -2	79	.0	55	10	.0	57	.0	48	8	.0	106	.0	118	10	.0
EGR DISC-1	54	.0	345	10	.0	100	.0	58	10	.0	128	.0	120	11	.0
EGR DISC-2	54	.0	375	10	.0	119	.0	58	10	.0	143	.0	75	12	.0
A/P DISC-1	2361	.9	10	130	.9	4877	2.3	5	250	2.1	4386	2.6	23	283	2.4
A/P DISC-2	1826	.7	5	107	.7	4697	2.1	5	235	2.0	4256	2.4	8	263	2.1
INDOLENE-3	85	.0	68	10	.0	85	.0	45	10	.0	91	.0	95	10	.0

TABLE 5.12-19 MODIFIED IDLE TEST (CONT'D)

CONDITION	2500 RPM					IDLE NEUTRAL					IDLE IN GEAR				
	LAB			GARAGE		LAB			GARAGE		LAB			GARAGE	
	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
FORD FAIRMONT - 4.2 LITER (EPA NO. 14213)															
INDOLENE-1	60	.0	75	10	.0	51	.0	75	9	.0	134	.0	100	11	.0
INDOLENE-2	60	.0	70	7	.0	33	.0	75	5	.0	109	.0	95	7	.0
ROCKET -1	57	.0	80	7	.0	51	.0	78	6	.0	109	.0	120	9	.0
ROCKET -2	39	.0	78	6	.0	30	.0	73	5	.0	70	.0	108	7	.0
EXXON -1	48	.0	75	8	.0	30	.0	68	7	.0	82	.0	110	9	.0
EXXON -2	39	.0	75	5	.0	27	.0	80	4	.0	88	.0	125	7	.0
GASOHOL -1	39	.0	75	8	.0	39	.0	68	8	.0	54	.0	153	10	.0
GASOHOL -2	36	.0	78	8	.0	33	.0	65	8	.0	39	.0	130	7	.0
EGR DISC-1	24	.0	253	7	.0	36	.0	90	6	.0	79	.0	118	8	.0
EGR DISC-2	33	.0	198	10	.0	36	.0	40	9	.0	119	.0	55	12	.0
A/P DISC-1	106	.0	128	9	.0	761	.3	8	52	.2	822	.3	10	66	.2
A/P DISC-2	220	.0	108	20	.0	4316	2.4	5	245	2.3	4296	2.6	3	295	2.4
INDOLENE-3	51	.0	80	9	.0	33	.0	73	7	.0	109	.0	95	9	.0
FORD THUNDERBIRD - 5.0 LITER (EPA NO. 15003)															
INDOLENE-1	36	.0	103	7	.0	30	.0	80	6	.0	39	.0	100	7	.0
INDOLENE-2	39	.0	93	7	.0	33	.0	75	7	.0	36	.0	85	7	.0
ROCKET -1	54	.0	80	7	.0	27	.0	80	6	.0	51	.0	100	6	.0
ROCKET -2	36	.0	95	8	.0	27	.0	78	7	.0	27	.0	125	8	.0
EXXON -1	42	.0	83	7	.0	27	.0	73	6	.0	30	.0	88	6	.0
EXXON -2	51	.0	83	8	.0	33	.0	75	7	.0	33	.0	103	7	.0
GASOHOL -1	39	.0	88	8	.0	30	.0	71	7	.0	39	.0	100	7	.0
GASOHOL -2	54	.0	98	5	.0	57	.0	83	4	.0	57	.0	103	4	.0
EGR DISC-1	30	.0	313	10	.0	45	.0	83	9	.0	54	.0	75	9	.0
EGR DISC-2		.0	312	7			.0	107	7			.0	103	7	
A/P DISC-1		.0	119	21			.6	23	228			.3	10	233	
A/P DISC-2		.0	129	21			.7	1	272			.7	1	293	
INDOLENE-3		.0	85	6			.0	72	5			.0	82	5	

TABLE 5.12-20 FTP BAG SET DATA

CONDITION	COLD TRANSIENT HC	COLD TRANSIENT CO	COLD TRANSIENT CO2	COLD TRANSIENT NOX	COLD STABILIZED HC	COLD STABILIZED CO	COLD STABILIZED CO2	COLD STABILIZED NOX	HOT TRANSIENT HC	HOT TRANSIENT CO	HOT TRANSIENT CO2	HOT TRANSIENT NOX
FORD ESCORT - 1.6 LITER (EPA NO. 11633)												
INDOLENE-1	2.35	36.96	1299.2	2.62	1.44	8.54	1516.2	1.30	2.04	39.56	1047.7	1.60
INDOLENE-2	2.69	35.41	1306.6	3.18	1.18	4.83	1506.7	1.80	1.91	31.42	1022.6	1.98
ROCKET -1	2.62	38.02	1289.4	3.21	1.60	19.56	1551.7	1.79	4.19	71.42	1081.6	1.49
ROCKET -2	2.95	41.16	1274.6	2.97	1.35	11.38	1527.7	1.67	2.76	51.60	1047.9	1.72
EXXON -1	2.47	34.24	1275.7	3.13	1.16	8.38	1506.7	2.10	1.74	30.63	1022.9	2.06
EXXON -2	1.87	28.05	1324.4	2.88	1.27	10.81	1514.9	1.88	2.09	50.54	1029.4	2.04
GASOHOL -1	1.37	21.60	1319.1	2.78	1.36	14.70	1473.8	2.18	4.25	72.09	1015.0	1.66
GASOHOL -2	1.80	22.75	1273.0	4.15	.87	4.17	1438.4	2.56	1.62	31.71	987.2	2.42
EGR DISC-1	2.36	29.59	1227.6	6.73	1.15	4.82	1469.8	5.26	1.43	24.21	979.0	4.77
EGR DISC-2	2.19	28.67	1267.7	6.27	1.18	4.96	1478.6	4.35	1.39	23.59	987.1	4.26
A/P DISC-1	5.89	127.42	1060.3	2.21	3.20	104.65	1319.3	.83	3.14	98.17	865.6	.99
A/P DISC-2	7.12	148.79	1073.3	2.04	3.64	108.39	1296.9	.39	3.54	98.42	875.3	.84
INDOLENE-3	1.67	26.54	1339.5	2.47	1.20	5.42	1495.5	1.29	1.64	27.61	1019.9	1.34
ROCKET -3	1.91	26.88	1260.2	2.63	1.43	17.82	1445.4	1.58	3.56	59.55	980.0	1.58
FORD FAIRMONT - 3.3 LITER (EPA NO. 13347)												
INDOLENE-1	3.21	39.55	2121.3	1.89	.59	.11	1974.5	2.04	1.01	6.24	1702.4	2.91
INDOLENE-2	2.86	36.99	2121.8	2.65	.53	.13	1962.5	2.90	.91	5.67	1681.4	2.96
ROCKET -1	3.23	50.97	2089.3	2.52	.49	.09	1962.4	2.91	1.54	11.56	1726.9	2.67
ROCKET -2	3.50	51.22	2036.5	2.81	.45	.12	1961.6	2.98	1.61	11.61	1734.4	2.10
EXXON -1	3.00	51.07	2082.2	2.16	.53	.10	1931.8	3.21	1.37	13.73	1699.9	2.64
EXXON -2	3.18	52.44	2066.6	2.01	.52	.14	1957.7	2.90	1.42	14.84	1703.6	2.48
GASOHOL -1	3.00	39.49	1986.6	3.17	.65	.12	1901.7	3.95	2.12	23.35	1668.6	2.99
GASOHOL -2	2.38	33.88	2021.1	3.49	.64	.03	1905.2	4.60	1.33	21.21	1676.2	3.80
EGR DISC-1	3.12	44.55	2070.3	5.02	.51	.05	1987.9	9.31	1.02	12.30	1691.8	9.83
EGR DISC-2	3.58	53.40	2167.6	8.01	.50	.09	2040.0	10.16	.86	11.23	1781.1	11.01
A/P DISC-1	14.96	340.25	1501.2	2.00	12.45	190.15	1675.8	.77	9.89	179.44	1395.5	1.20
A/P DISC-2	14.58	323.43	1560.5	1.89	12.13	200.30	1641.6	.52	9.52	175.10	1401.9	.80
INDOLENE-3	2.67	36.92	2112.9	2.85	.59	.08	1973.7	3.36	.87	5.89	1700.2	3.38

TABLE 5.12-20 FTP BAG SET DATA (CONT'D)

CONDITION	-----COLD TRANSIENT----- HC	CO	CO2	NOX	----COLD STABILIZED----- HC	CO	CO2	NOX	-----HOT TRANSIENT------ HC	CO	CO2	NOX
FORD FAIRMONT - 4.2 LITER (EPA NO. 14213)												
INDOLENE-1	1.93	14.46	2015.5	4.69	.97	4.31	2148.1	1.35	1.38	18.37	1739.6	2.08
INDOLENE-2	1.69	11.83	2047.0	4.57	.61	.49	2102.6	1.57	1.15	5.46	1732.6	2.15
ROCKET -1	1.57	9.54	1997.8	4.86	.97	5.06	2129.4	1.49	1.71	22.39	1748.3	2.04
ROCKET -2	1.43	10.41	1976.1	5.30	.76	1.16	2058.6	2.06	1.23	14.35	1738.4	2.33
EXXON -1	1.48	10.23	2004.2	5.67	.72	.48	2069.0	1.98	1.90	17.05	1721.3	2.40
EXXON -2	1.59	9.82	2016.7	5.46	.70	.59	2055.6	2.25	1.68	17.39	1734.5	2.32
GASOHOL -1	1.68	9.38	1925.5	6.98	.82	4.36	1986.0	3.18	1.35	15.35	1740.1	4.01
GASOHOL -2	2.15	11.97	1967.1	7.75	.57	.26	1939.7	3.92	1.04	6.51	1641.2	4.43
EGR DISC-1	1.87	11.95	1990.6	17.00	.77	.64	2078.0	9.20	1.22	8.38	1705.1	15.26
EGR DISC-2	3.99	23.01	2073.8	9.53	.95	4.59	2147.2	4.96	1.66	16.67	1744.0	6.17
A/P DISC-1	13.10	221.10	1678.7	3.21	13.40	240.03	1681.9	.89	7.99	129.03	1497.8	2.43
A/P DISC-2	13.19	212.02	1640.4	3.50	12.67	231.85	1694.0	1.02	7.90	128.81	1467.6	2.07
INDOLENE-3	1.91	12.09	2020.3	6.26	.68	1.05	2053.5	2.48	1.72	7.92	1694.1	3.77
FORD THUNDERBIRD - 5.0 LITER (EPA NO. 15003)												
INDOLENE-1	1.62	11.84	1957.4	4.71	.46	.11	2211.8	3.48	.75	7.29	1714.7	4.07
INDOLENE-2	1.82	12.44	1960.8	4.54	.46	.03	2213.8	3.49	.78	7.06	1696.6	4.08
ROCKET -1	1.73	14.99	1937.1	3.79	.82	3.45	2269.3	2.27	1.96	29.93	1747.9	1.66
ROCKET -2	1.70	12.58	1947.2	4.35	.65	.99	2277.2	2.43	1.56	25.08	1748.2	1.87
EXXON -1	1.69	10.02	1989.5	4.96	.50	.11	2225.6	2.92	1.07	15.36	1709.1	3.36
EXXON -2	1.90	12.82	2002.1	4.25	.58	.36	2212.1	2.53	1.01	15.09	1715.3	2.73
GASOHOL -1	2.08	19.44	2008.6	4.65	.59	.57	2146.3	2.33	1.74	22.68	1690.7	2.52
GASOHOL -2	2.01	15.21	1934.8	6.94	.45	.03	2113.6	4.57	.93	14.55	1643.0	5.10
EGR DISC-1	2.02	12.93	2050.9	9.72	.67	.26	2237.2	5.38	.76	6.12	1704.2	12.50
EGR DISC-2	3.08	22.36	2142.0	8.78	.84	.31	2332.2	5.63	.91	4.26	1779.9	9.04
A/P DISC-1	12.19	170.47	1697.7	3.15	8.22	109.41	2073.8	1.17	4.03	61.43	1614.5	1.52
A/P DISC-2	12.07	168.63	1769.1	4.01	9.15	122.44	2070.9	1.29	4.23	55.60	1631.8	2.54
INDOLENE-3	1.51	11.66	2061.8	5.88	.49	.16	2263.9	3.50	1.02	11.88	1727.4	4.82

TABLE 5.12-21 FTP AND HFET

CONDITION	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG
FORD ESCORT - 1.6 LITER (EPA NO. 11633)											
INDOLENE-1	.48	6.26	356.3	.36	.45	24.1	.20	2.28	221.8	.44	39.25
INDOLENE-2	.46	5.06	353.5	.52	.57	24.4	.17	1.65	220.7	.55	39.62
ROCKET -1	.68	10.22	363.0	.45	.54	23.3	.18	7.26	241.9	.24	34.93
ROCKET -2	.56	7.80	356.4	.48	.52	23.9	.18	2.18	223.1	.52	39.05
EXXON -1	.43	5.41	351.8	.57	.62	24.5	.16	1.06	216.4	.59	40.58
EXXON -2	.44	6.89	356.2	.51	.57	24.1	.14	.85	218.7	.60	40.22
GASOHOL -1	.58	8.68	349.3	.41	.58	23.4	.18	7.86	227.9	.20	35.53
GASOHOL -2	.34	4.27	339.8	.65	.76	24.6	.14	.99	206.7	.50	41.00
EGR DISC-1	.40	4.18	340.8	1.24	1.45	25.4	.15	.55	207.1	1.20	42.56
EGR DISC-2	.39	4.10	344.9	1.16	1.26	25.2	.13	.60	211.4	1.25	41.68
A/P DISC-1	1.00	28.72	302.5	.25	.31	25.3	.58	13.26	187.0	.16	42.29
A/P DISC-2	1.16	30.46	301.0	.18	.23	25.2	.52	11.80	192.7	.16	41.65
INDOLENE-3	.38	4.34	353.7	.35	.42	24.5	.15	1.12	213.2	.33	41.16
ROCKET -3	.57	8.44	339.4	.47	.48	25.0	.19	2.12	214.5	.54	40.60
FORD FAIRMONT - 3.3 LITER (EPA NO. 13347)											
INDOLENE-1	.34	2.76	514.3	.59	.60	17.1	.06	.02	394.8	1.19	22.45
INDOLENE-2	.30	2.57	511.1	.81	.76	17.2	.06	.00	391.6	1.29	22.63
ROCKET -1	.37	3.81	512.7	.77	.73	17.1	.06	.03	393.6	1.10	22.52
ROCKET -2	.38	3.84	510.1	.77	.72	17.1	.07	.05	392.3	.90	22.59
EXXON -1	.35	3.99	506.1	.79	.75	17.3	.06	.02	391.4	1.25	22.64
EXXON -2	.36	4.15	509.0	.71	.69	17.2	.07	.04	392.6	1.03	22.57
GASOHOL -1	.42	4.06	494.3	.84	.94	17.1	.06	.02	373.7	1.08	22.89
GASOHOL -2	.32	3.56	497.3	1.14	1.10	17.1	.05	.01	378.6	1.50	22.59
EGR DISC-1	.32	3.50	512.3	2.20	2.28	17.1	.06	.02	395.2	3.63	22.43
EGR DISC-2	.34	3.93	531.6	2.41	2.65	16.5	.05	.01	394.2	3.78	22.49
A/P DISC-1	3.27	58.50	415.6	.31	.31	17.1	1.83	33.39	318.1	.19	23.56
A/P DISC-2	3.18	58.56	414.9	.25	.24	17.2	1.81	33.00	321.6	.16	23.39
INDOLENE-3	.30	2.57	513.5	.92	.87	17.1	.05	.01	380.3	1.30	23.31

TABLE 5.12-21 FTP AND HFET (CONT'D)

CONDITION	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG
FORD FAIRMONT - 4.2 LITER (EPA NO. 14213)											
INDOLENE-1	.34	2.80	534.2	.63	.61	16.4	.08	.25	369.0	1.09	23.99
INDOLENE-2	.27	1.16	529.4	.70	.63	16.7	.09	.10	372.9	.85	23.76
ROCKET -1	.35	2.92	531.3	.68	.63	16.5	.08	.16	360.0	.83	24.60
ROCKET -2	.28	1.84	519.9	.77	.76	16.9	.07	.14	363.1	.64	24.39
EXXON -1	.32	1.95	521.6	.73	.77	16.9	.09	.23	378.0	.41	23.42
EXXON -2	.31	1.96	521.5	.77	.79	16.9	.07	.17	374.1	.66	23.67
GASOHOL -1	.31	2.29	507.4	1.18	1.13	16.7	.07	.05	358.5	1.63	23.85
GASOHOL -2	.28	1.22	496.1	1.33	1.30	17.2	.07	.01	361.9	1.75	23.63
EGR DISC-1	.30	1.41	520.8	3.20	3.36	16.9	.08	.03	380.3	4.95	23.30
EGR DISC-2	.48	3.20	537.7	1.65	1.68	16.3	.08	.03	374.8	2.86	23.64
A/P DISC-1	3.14	54.49	434.3	.44	.49	16.7	.33	4.90	356.5	.71	24.28
A/P DISC-2	3.05	52.86	431.5	.47	.49	16.9	.30	4.95	354.5	.71	24.41
INDOLENE-3	.33	1.43	518.4	.94	.98	17.0	.07	.03	368.8	1.51	24.02
FORD THUNDERBIRD - 5.0 LITER (EPA NO. 15003)											
INDOLENE-1	.21	1.25	537.5	1.13	1.04	16.4	.05	.01	347.4	1.43	25.52
INDOLENE-2	.22	1.25	536.5	1.03	1.04	16.4	.05	.00	348.1	1.27	25.46
ROCKET -1	.36	3.59	546.5	.61	.65	16.0	.12	.09	370.4	.34	23.91
ROCKET -2	.30	2.76	548.1	.73	.72	16.0	.08	.01	364.0	.31	24.34
EXXON -1	.25	1.76	540.7	.96	.93	16.3	.06	.01	365.7	.46	24.24
EXXON -2	.26	1.93	540.1	.72	.79	16.3	.07	.02	362.6	.34	24.44
GASOHOL -1	.33	2.91	529.8	.62	.77	16.0	.07	.03	354.0	.33	24.15
GASOHOL -2	.25	1.98	517.6	1.31	1.39	16.4	.05	.00	355.6	1.29	24.05
EGR DISC-1	.26	1.24	545.4	1.91	2.22	16.2	.06	.01	366.7	3.32	24.17
EGR DISC-2	.36	1.65	569.0	1.70	1.94	15.5	.06	.00	371.1	3.16	23.88
A/P DISC-1	2.10	29.03	496.5	.41	.45	16.2	.12	2.11	351.9	.82	24.94
A/P DISC-2	2.23	30.22	501.6	.54	.60	15.9	.11	1.36	355.6	1.04	24.77
INDOLENE-3	.23	1.59	551.3	1.09	1.17	16.0	.05	.00	359.3	1.39	24.67

TABLE 5.12-22 NEW YORK CITY DRIVING CYCLE TEST

CONDITION	DATE	HC	CO	CO2	NOX	MPG
FORD ESCORT - 1.6 LITER (EPA NO. 11633)						
INDOLENE-1	810702	1.17	27.46	623.9	.59	13.2
INDOLENE-2	810715	.60	3.59	598.1	.63	14.6
ROCKET -1	810716	7.29	68.74	682.2	.55	10.9
ROCKET -2	810717	.81	6.61	599.2	.62	14.5
EXXON -1	810721	.59	5.78	617.5	.81	14.1
EXXON -2	810724	.44	2.10	604.2	.97	14.6
GASOHOL -1	810727	7.47	57.29	630.4	.80	11.9
GASOHOL -2	810728	.93	15.41	573.6	.96	14.8
EGR DISC-1	810731	.46	4.01	629.3	1.81	13.9
EGR DISC-2	810803	.48	5.11	588.2	1.44	14.8
A/P DISC-1	810804	1.12	25.36	585.2	.44	14.1
A/P DISC-2	810807	1.05	22.47	532.1	.25	15.5
INDOLENE-3	810812	.47	1.48	600.8	.55	14.7
FORD FAIRMONT - 3.3 LITER (EPA NO. 13347)						
INDOLENE-1	810518	.31	.24	911.0	1.45	9.7
INDOLENE-2	810520	.32	.10	917.5	1.89	9.7
ROCKET -1	810521	.23	.43	926.5	1.09	9.6
ROCKET -2	810522	.73	.78	956.4	.42	9.2
EXXON -1	810526	.31	.14	932.4	1.69	9.5
EXXON -2	810527	.29	.42	903.7	1.52	9.8
GASOHOL -1	810529	.28	.15	882.3	1.53	10.0
GASOHOL -2	810601	.26	.12	927.4	1.50	9.6
EGR DISC-1	810603	.31	.16	901.8	3.76	9.8
EGR DISC-2	810604	.35	.22	928.6	3.61	9.5
A/P DISC-1	810608	5.88	89.98	756.5	.52	9.7
A/P DISC-2	810609	5.56	89.23	763.2	.36	9.6
INDOLENE-3	810610	.33	.21	907.2	2.17	9.8

TABLE 5.12-22 NEW YORK CITY DRIVING CYCLE (CONT'D)

CONDITION	DATE	HC	CO	CO2	NOX	MPG
FORD FAIRMONT 4.2 LITER (EPA NO. 14213)						
INDOLENE-1	810610	.52	5.93	1030.1	.78	8.5
INDOLENE-2	810612	.50	3.15	1014.1	.87	8.7
ROCKET -1	810617	.58	8.41	1040.1	.60	8.4
ROCKET -2	810618	.54	3.33	1045.8	.65	8.4
EXXON -1	810619	.59	3.81	1037.8	.63	8.5
EXXON -2	810622	.57	3.70	1017.1	.66	8.7
GASOHOL -1	810623	.61	5.40	968.9	1.03	9.1
GASOHOL -2	810624	.49	1.92	967.2	1.15	9.1
EGR DISC-1	810625	.57	3.16	1017.0	1.60	8.7
EGR DISC-2	810629	.52	2.45	1038.4	1.55	8.5
A/P DISC-1	810630	7.37	136.31	774.5	.23	8.8
A/P DISC-2	810701	7.17	133.65	765.2	.20	8.9
INDOLENE-3	810702	.54	3.46	998.1	1.02	8.8
FORD THUNDERBIRD 5.0 LITER (EPA NO. 15003)						
INDOLENE-1	810617	.29	.46	991.7	1.42	8.9
INDOLENE-2	810618	.98	.65	975.6	1.51	9.1
ROCKET -1	810619	.61	5.69	1036.1	.83	8.5
ROCKET -2	810622	.47	2.09	1044.6	.89	8.5
EXXON -1	810623	.43	.94	1030.1	.99	8.6
EXXON -2	810624	.50	2.58	1008.1	.93	8.7
GASOHOL -1	810629	.52	3.39	985.8	.65	8.9
GASOHOL -2	810630	.35	.86	982.7	1.10	9.0
EGR DISC-1	810702	.49	1.69	1002.9	1.58	8.8
EGR DISC-2	810715	.57	2.01	1041.2	2.64	8.5
A/P DISC-1	810716	2.58	29.40	950.7	.20	8.8
A/P DISC-2	810717	3.89	31.85	950.6	.61	8.8
INDOLENE-3	810721	.32	1.04	995.5	1.45	8.9

TABLE 5.12-23 BEFORE CATALYST (ENGINE OUT) MEASUREMENTS

CONDITION	----TWO MODE----						----------FOUR MODE----------							
	50MPH		30MPH		IDLE		IDLE		2500RPM		IDLE		IN GEAR	
	HC	CO	HC	CO	HC	CO	HC	CO	HC	CO	HC	CO	HC	CO
FORD ESCORT - 1.6 LITER (EPA NO. 11633)														
INDOLENE-2	250	1.5	200	.6	180	.5	200	.9	180	.3	160	.4		
EGR DISC-1	260	1.1	250	.6	300	.8	220	.3	180	.2	200	.3		
EGR DISC-2	290	1.0	280	.5	240	.2	220	.4	200	.3	240	.3		
A/P DISC-1	320	1.7	280	.8	300	.2	220	.4	210	.3	220	.4		
A/P DISC-2	160	.6	160	.6	120	.3	80	.4	80	.6	90	.4		
FORD FAIRMONT - 3.3 LITER (EPA NO. 13347)														
INDOLENE-2	(TEST WAS INVALID)													
EGR DISC-1	120	.1	140	.1	130	.1	380	1.8	160	.1	150	.1	140	.1
EGR DISC-2	160	.0	180	.0	180	.0	180	.0	180	.0	180	.0	170	.0
A/P DISC-1	250	2.2	200	.8	450	3.1	420	3.1	240	1.4	400	3.2	440	3.2
A/P DISC-2	260	2.3	120	.1	400	2.8	420	2.6	280	1.6	400	2.8	440	3.3
FORD FAIRMONT - 4.2 LITER (EPA NO. 14213)														
INDOLENE-2	160	.1	220	.1	140	.1	400	2.2	160	.1	220	.8	150	.6
EGR DISC-1	170	.1	230	.1	170	.1	480	2.7	140	.2	180	.1	230	.8
EGR DISC-2	180	.2	220	.1	160	.1	460	2.6	150	.2	180	.1	220	.8
A/P DISC-1	170	.2	170	.1	420	3.7	400	3.4	100	.3	420	3.3	440	3.8
A/P DISC-2	160	.2	200	.2	400	3.3	380	3.2	140	.3	400	3.0	430	3.4
FORD THUNDERBIRD - 5.0 LITER (EPA NO. 15003)														
INDOLENE-2	130	.1	140	.1	140	.1	420	1.0	130	.2	150	.1	160	.2
EGR DISC-1	150	.2	130	.2	150	.1	400	1.0	120	.2	150	.1	160	.2
EGR DISC-2	200	.2	160	.3	160	.1	460	1.1	150	.6	180	.3	200	.2
A/P DISC-1	180	.1	163	.1	413	1.3	463	1.1	157	.3	433	1.4	400	1.2
A/P DISC-2	200	.2	160	.2	160	.1	460	1.1	150	.7	180	.2	200	.2

TEST GROUP No. 15 REPORT

5.13 EVALUATION of "SUPER-MAG" FUEL EXTENDER

5.13.1 SUMMARY

The purpose of this test group was to evaluate the effectiveness of a device called "Super-Mag Fuel Extender". The "Super-Mag" is a retrofit device marketed by Valor Enterprises, Inc, of West Milton, Ohio. It consists of a set of magnets and sheet-metal plates that are installed around an automobile's fuel line near the carburetor in a box-like arrangement. A copy of the installation instructions that were packaged with the device is shown on Figure 5.13-1.

Three test vehicles were selected for this evaluation with the intent being to select a fairly wide range of model years, vehicle sizes, and engine sizes, and to have each of the three American manufacturer's vehicles represented. The vehicles chosen were:

1976 Chevrolet Malibu - 350 CID V-8 engine
1978 Plymouth Horizon - 105 CID in-line 4-cylinder engine
1981 Ford Fairmont - 200 CID in-line 6-cylinder engine

A diagnostic inspection was performed on each vehicle and any repairs and/or adjustments necessary to set the vehicle to manufacturer's specifications were made prior to testing. At least two sets of tests (which included a FTP and Highway Fuel Economy Test) were conducted on each vehicle in each of the following conditions: baseline, with device installed, and final baseline.

The results showed that neither fuel economy nor exhaust emissions were affected by the installation of the device. Any difference between the test results with the device and the baseline tests (without the device) were considered to be within the range of normal test variability.

SUPER-MAG FUEL EXTENDER

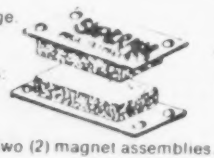
MODEL SM101

"By VALOR — the Innovators in Energy Saving Devices"

INSTALLATION INSTRUCTIONS

Congratulations! You have just purchased the Super-Mag Fuel Extender — a break through in a Fuel Saving Device.

1. Remove all parts from package.
2. Each Super-Mag Kit contains:

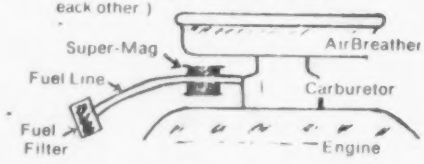


Two (2) magnet assemblies.

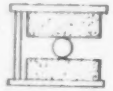
Two (2) metal plates.

Two (2) plastic ties.

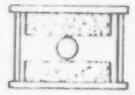
3. Remove air breather.
4. Check to see where fuel line enters carburetor. (Line will come from fuel pump to carburetor.) If your fuel line has a rubber hose, it must be removed and a steel or copper line added.
5. Install the Super-Mag Fuel Extender approximately 3" from the carburetor. Position between the carburetor and fuel filter on fuel line. (For proper installation, magnets must attract each other.)



6. Where room is available, Extender can be installed using the Three Plates or Box Method.



7. Preferred installation is to use the Four-Plate or Box Method. Using the Plate Method will amplify the magnetic field.



8. Secure Super-Mag Fuel Extender with plastic ties placed through holes in each end of plate. (See illustration.)

9. Completely tape the Super-Mag Fuel Extender for a cleaner installation.
10. If carburetor has a built-in filter or screen, it must be removed. Then install Super-Mag as in Step 5.

NOTE:
Always install Super-Mag Fuel Extender with magnetic force attracting each other.

TEST PROCEDURE

To start (Before installation of Super-Mag Fuel Extender)

- Note temperature, barometric pressure and humidity
- Note the beginning and end time of test, and the miles traveled. This will enable you to calculate your average speed.
- Top off tank (Shake car to eliminate air pockets in tanks.)
- Drive car 80 to 100 miles.
- Refill tank (Top off)
- Divide miles by gallons of fuel — this will give you the miles per gallon.

Install Super-Mag Fuel Extender as per instructions on reverse side.

Re-test car duplicating conditions as in Section 1 as closely as possible.

These Factors Will Affect Fuel Mileage:
Air Temperature • Head Winds • Road Conditions • Condition of Engine • Tire Pressure • Hilly Terrain • Driving Technique

PRODUCT LIMITED WARRANTY

Valor Enterprises, Incorporated warrants all products for thirty days from date of original purchase against manufacturing defects in material and workmanship in accordance with the following terms and conditions. This warranty applies to the original purchaser only and is not transferable.

1. During warranty period, Valor Enterprises will repair without charge valid defects in materials and workmanship. Warranty does not apply to units that have been damaged through accident, misuse, negligence, modification, abuse, normal expected wear, installation, and weather or act of God. Damage that is determined to be of this nature will be repaired at consumer's expense. Warranty does not apply to labor and repair expenses not performed by Valor Service Department, such as repair, removal, and installation. Missing accessories will be replaced at a charge to the sender. Not in warranty if not properly installed, resulting in any damage to the vehicle.
2. The extent of repairs or adjustments covered under this warranty are to be determined by Valor Enterprises. Valor Enterprises reserves the right to make final judgement as to causes of defects.
3. For you protection, we require proof of original purchase date for warranty determination sales invoice or cancelled check is satisfactory evidence. This procedure insures that you receive full term warranty from the date of original purchase so that the time the unit remains in dealer stock is not deducted.
4. All packaging and shipping charges to return units for repair are the responsibility of the customer. Pack units carefully to eliminate shipping damages. It is wise to insure shipments against loss or damage. Return units to Valor Enterprises, Incorporated, 185 West Hamilton Street, West Milton, 45383. Attention: Warranty Repair Department. Please include a detailed description of the problem along will proof of purchase. If the unit is under warranty, Valor Enterprises will return it prepaid. Inquiries concerning the status of a warranty claim may be directed to the above address, or by telephoning (513) 698-4194 and asking for Customer Service.
5. UNDER NO CIRCUMSTANCES SHALL VALOR ENTERPRISES, INCORPORATED BE LIABLE FOR ANY CONSEQUENTIAL DAMAGES FOR BREACH OF THIS WARRANTY OR OF ANY IMPLIED WARRANTY.
6. Consumer may appeal product repair charges by stating the complaint in writing to Valor Enterprises. Remedial action requests will be answered within three weeks after receipt. Consumers are required to seek remedial action to Valor Enterprises before resorting to a third party.
7. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

The Model SM101 Super-Mag Fuel Extender will work on any Combustion Engine — Lawn Mowers — Snow Mobiles — Boats — Rototillers — Motorcycles — Garden Tractors — Vans — Pickups — Trucks, etc.

Special Note.
Please write to us at Valor Enterprises, Inc. and tell us the results of your use of the Super-Mag Fuel Extender. Your letter may be used in our National Advertising Program.

VALOR ENTERPRISES, INC.
185 West Hamilton Street
West Milton, Ohio 45383

Figure 5.13.1 "SUPER-MAG" Installation Instructions
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5.13.2 VEHICLE SELECTION and RECRUITMENT

The requirements for selection of the three test vehicles were to choose one from each of the three major American manufacturers and include one each of 4-cylinder, 6-cylinder and 8-cylinder engines. The desired model years were 1976-1981.

A diagnostic inspection was performed on each vehicle recruited. If the vehicle had no major mechanical problems, it was considered acceptable to be used for the device evaluation.

The vehicles choosen were as follows:

1976 Chevrolet Malibu (EPA No. 69991)

VIN: 1D29V6Z473383
Engine: 350-2V, V8
Transmission: Automatic
Emission Controls: EGR, Catalytic Converter
Odometer: 75,812 miles

1978 Plymouth Horizon (EPA No. 89994)

VIN: ML44A8D235515
Engine: 105-2V, in-line 6 cylinders
Transmission: Automatic
Emission Controls: EGR, Air Pump, Catalytic Converter
Odometer: 28,138 miles

1981 Ford Fairmont (EPA No. 13347)

VIN: 1FABP21B3BK112840
Engine: 200
Transmission: Automatic
Emission Controls: EGR, Air Pump, Three-Way Catalyst
Odometer: 8,832 miles

5.13.3 TEST PROCEDURES

5.13.3.1 Diagnostic Inspection and Maintenance

A complete diagnostic inspection (ref. para. 4.3.2) was performed on each vehicle. Any emission related repairs and/or adjustments to set the vehicle to manufacturer's specifications indicated as necessary by the inspection were made prior to testing. After the repairs were completed, the vehicles were driven on a 100-mile urban/suburban road route to condition the engines and stabilize emissions. (The 100-mile route was waived for the Ford Fairmont since no repairs or adjustments were required and the car had just completed a sequence of several consecutive days of dynamometer tests.)

5.13.3.2 Test Sequence

The test sequence on each vehicle consisted of a FTP (Ref. para. 4.3.3 and 4.3.4) followed by a Highway Fuel Economy Test (Ref. para 4.3.6). At least two of these test sequences were conducted on each vehicle in each of these configurations:

- Baseline (without device)
- With Device Installed
- Final Baseline (without device)

5.13.3.3 Horsepower and Inertia Weight Settings

The actual horsepower and inertia weight settings for the three vehicles tested were as follows:

	Horsepower	Inertia Weight
1976 Chev. Malibu	14.0	4500 lbs
1978 Ply. Horizon	7.0	2500 lbs
1981 Ford Fairmont	10.7	3000 lbs

5.13.4 TEST RESULTS

5.13.4.1 Maintenance

The following maintenance was performed on the three vehicles prior to conducting the FTP and HFET tests:

1976 Chevrolet Malibu - Steam-cleaned engine, changed engine oil and filter, replaced spark plug and air cleaner hot air duct. Rebuilt carburetor (installed new needle valve, seat, power valve, gaskets and fuel filter). Adjusted choke setting, idle speed, ignition timing, and idle air-fuel ratio.

1978 Plymouth Horizon - Changed engine oil, oil filter and air filter. Replaced carburetor, and adjusted choke setting, idle speed, ignition timing and idle air-fuel ratio.

1981 Ford Fairmont - No repairs or adjustments were necessary.

5.13.4.2 FTP and HFET Test Results

The average results for the FTP tests performed for each of the three conditions (baseline, with device installed, and final baseline) are shown on Table 5.13-1. A step-change in HC and CO emissions was noted in the final baseline tests for the Fairmont and the complete set of tests required for the evaluation was repeated.

Table 5.13-2 provides the FTP and Highway Fuel Economy Test (HFET) test results for all tests conducted. The data for each FTP bag set (cold transient, cold stabilized and hot transient) are shown on Table 5.13-3.

TABLE 5.13-1

COMPOSITE of FTP RESULTS

1976 Chevrolet Malibu

Condition	HC	CO	NOxc	MPG
Baseline	1.28 gpm	26.47 gpm	1.94 gpm	12.9
With Device	1.32 gpm	28.55 gpm	2.14 gpm	12.5
Final Baseline	1.35 gpm	29.82 gpm	2.01 gpm	12.6

1978 Plymouth Horizon

Condition	HC	CO	NOxc	MPG
Baseline	0.78 gpm	16.74 gpm	1.76 gpm	24.9
With Device	0.70 gpm	14.11 gpm	1.90 gpm	25.3
Final Baseline	0.73 gpm	15.11 gpm	1.64 gpm	25.2

1981 Ford Fairmont

Condition	HC	CO	NOxc	MPG
Baseline	0.29 gpm	2.65 gpm	0.84 gpm	17.1
With Device	0.32 gpm	3.27 gpm	0.73 gpm	17.2
Final Baseline	0.53 gpm	6.14 gpm	0.77 gpm	17.3
Baseline	0.58 gpm	6.69 gpm	0.69 gpm	16.9
With Device	0.55 gpm	6.53 gpm	0.78 gpm	17.0
Final Baseline	0.55 gpm	6.75 gpm	0.83 gpm	17.1

The legend for Tables 5.13-2 and 5.13-3 is as follows:

HC	-	Hydrocarbon Emissions
CO	-	Carbon Monoxide Emissions
CO_2	-	Carbon Dioxide Emissions
NOx	-	Oxides of Nitrogen (uncorrected) Emissions
NOxc	-	Oxides of Nitrogen Emissions corrected for humidity
MPG	-	Miles per Gallon calculated by Carbon Balance Method

Data are presented in grams per mile on Table 5.13-2 and in grams on Table 5.13-3.

TABLE 5.13-2 FTP AND HFET RESULTS

TEST CONDITION	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG
1976 CHEVROLET MALIBU (EPA NO. 69991)											
1ST BASELINE W/O DEVICE	1.24	24.12	658.0	2.33	2.01	12.7	.16	3.22	486.2	3.33	18.03
2ND BASELINE W/O DEVICE	1.26	27.06	643.3	2.11	1.86	12.9	.19	4.03	476.7	3.05	18.34
3RD BASELINE W/O DEVICE	1.34	28.22	632.4	2.23	1.95	13.0	.19	3.89	474.9	3.22	18.42
1ST TEST WITH DEVICE	1.36	30.18	662.9	2.48	2.16	12.4	.16	3.45	496.8	3.58	17.64
2ND TEST WITH DEVICE	1.27	26.91	663.6	2.32	2.12	12.5	.16	3.52	491.4	3.30	17.83
1ST FINAL W/O DEVICE	1.31	28.69	653.2	2.15	2.04	12.6	.18	4.09	483.8	2.88	18.07
2ND FINAL W/O DEVICE	1.39	30.95	655.7	2.06	1.97	12.5	.19	3.97	485.8	2.98	18.00
1978 PLYMOUTH HORIZON (EPA NO. 89994)											
1ST BASELINE W/O DEVICE	.75	16.59	332.1	1.44	1.73	24.6	.13	3.53	250.2	2.00	34.62
2ND BASELINE W/O DEVICE	.80	16.88	322.6	1.63	1.78	25.2	.16	4.17	250.8	1.66	34.40
1ST TEST WITH DEVICE	.69	14.90	328.0	1.55	1.63	25.1	.14	3.62	253.1	1.30	34.20
2ND TEST WITH DEVICE	.70	13.31	325.0	2.12	2.17	25.5	.07	1.08	257.9	2.25	34.13
1ST FINAL W/O DEVICE	.64	13.07	331.9	1.59	1.78	25.0	.08	1.82	259.3	2.10	33.79
2ND FINAL W/O DEVICE	.81	17.14	320.8	1.46	1.50	25.3	.20	4.81	249.7	1.15	34.39
1981 FORD FAIRMONT (EPA NO. 13347)											
1ST BASELINE W/O DEVICE	.30	2.57	513.5	.92	.87	17.1	.05	.01	380.3	1.30	23.31
2ND BASELINE W/O DEVICE	.28	2.72	513.3	.84	.80	17.1	.05	.01	383.3	1.34	23.13
1ST TEST WITH DEVICE	.30	3.20	510.3	.78	.73	17.2	.05	.02	379.5	1.20	23.36
2ND TEST WITH DEVICE	.34	3.34	511.8	.74	.72	17.1	.05	.02	385.4	1.04	23.00
1ST FINAL W/O DEVICE	.52	6.12	499.7	.86	.80	17.4	.11	.02	377.7	1.32	23.45
2ND FINAL W/O DEVICE	.54	6.15	508.4	.76	.73	17.1	.13	.08	382.1	1.20	23.18
3RD BASELINE W/O DEVICE	.60	6.91	517.3	.73	.77	16.7	.13	.04	381.3	1.03	23.23
4TH BASELINE W/O DEVICE	.56	6.47	508.8	.60	.61	17.0	.14	.05	389.9	.96	22.71
3RD TEST WITH DEVICE	.54	6.26	514.4	.83	.80	16.9	.13	.04	394.6	1.20	22.45
4TH TEST WITH DEVICE	.56	6.79	508.2	.76	.75	17.0	.14	.05	387.1	1.13	22.88
3RD FINAL W/O DEVICE	.54	6.58	507.0	.94	.94	17.1	.13	.03	401.9	1.44	22.04
4TH FINAL W/O DEVICE	.56	6.91	509.3	.66	.71	17.0	.14	.05	391.9	1.04	22.40

TABLE 5.13-3 FTP BAG SET DATA

	-----COLD TRANSIENT-----				----COLD STABILIZED----				-----HOT TRANSIENT-----			
	HC	CO	CO2	NOXC	HC	CO	CO2	NOXC	HC	CO	CO2	NOXC
1976 CHEVROLET MALIBU (EPA NO. 69991)												
1ST BASELINE W/O DEVICE	7.32	145.10	2470.4	10.65	4.83	99.32	2636.0	4.87	2.30	33.67	2170.2	9.84
2ND BASELINE W/O DEVICE	7.46	151.97	2417.1	10.56	4.36	103.91	2569.4	4.30	3.27	59.12	2132.7	8.96
3RD BASELINE W/O DEVICE	9.39	185.07	2362.2	10.81	4.38	101.71	2530.5	4.82	2.90	53.29	2100.2	9.04
1ST TEST WITH DEVICE	9.01	198.95	2460.1	12.03	4.96	112.78	2638.4	5.04	2.46	49.15	2237.9	10.53
2ND TEST WITH DEVICE	9.08	185.79	2463.3	11.93	4.45	101.53	2657.6	4.99	2.09	35.82	2210.4	10.09
1ST FINAL W/O DEVICE	7.98	177.39	2424.9	11.26	5.05	111.14	2606.1	4.73	2.39	48.64	2192.7	10.00
2ND FINAL W/O DEVICE	8.46	181.00	2393.9	11.31	5.18	121.30	2627.9	4.52	2.77	57.84	2210.9	9.53
1978 PLYMOUTH HORIZON (EPA NO. 89994)												
1ST BASELINE W/O DEVICE	7.59	117.08	1326.3	6.32	1.41	45.08	1264.2	6.05	1.66	50.89	1150.9	7.44
2ND BASELINE W/O DEVICE	7.68	106.33	1286.8	6.02	1.77	51.66	1232.4	6.89	1.67	51.28	1112.5	6.85
1ST TEST WITH DEVICE	6.80	108.73	1308.6	5.53	1.26	38.41	1251.9	6.37	1.72	46.70	1132.5	6.16
2ND TEST WITH DEVICE	7.23	103.61	1313.7	6.68	1.30	36.53	1241.6	8.83	1.47	32.85	1106.9	8.03
1ST FINAL W/O DEVICE	6.37	92.90	1283.9	6.92	1.19	35.16	1272.5	6.25	1.47	40.16	1166.0	7.26
2ND FINAL W/O DEVICE	8.02	117.13	1266.3	4.69	1.49	48.21	1206.2	6.09	1.97	52.65	1149.7	5.53
1981 FORD FAIRMONT (EPA NO. 13347)												
1ST BASELINE W/O DEVICE	2.67	36.92	2112.9	2.85	.59	.08	1973.7	3.36	.87	5.89	1700.2	3.38
2ND BASELINE W/O DEVICE	2.53	37.82	2067.0	2.77	.49	.06	1985.5	3.01	.90	7.15	1711.2	3.14
1ST TEST WITH DEVICE	2.74	41.42	2049.3	2.22	.50	.02	1972.9	2.94	.97	10.85	1706.9	2.76
2ND TEST WITH DEVICE	2.99	46.46	2088.1	1.85	.47	.11	1974.4	3.05	1.40	8.65	1695.0	2.71
1ST FINAL W/O DEVICE	4.96	88.18	1985.6	3.12	.87	.20	1939.9	2.78	1.54	13.61	1674.1	3.27
2ND FINAL W/O DEVICE	4.99	84.98	2006.6	3.04	.92	.32	1979.3	2.39	1.71	16.22	1703.7	3.14
3RD BASELINE W/O DEVICE	5.86	99.86	2089.4	2.99	.90	.34	1995.0	2.69	1.89	14.93	1730.8	3.09
4TH BASELINE W/O DEVICE	5.12	92.68	2047.4	2.66	1.03	.28	1966.7	1.96	1.66	14.79	1699.4	2.65
3RD TEST WITH DEVICE	5.34	94.03	2090.0	3.26	.93	.26	1982.5	2.76	1.38	11.03	1714.2	3.18
4TH TEST WITH DEVICE	5.37	95.62	2049.9	3.42	.91	.26	1966.4	2.43	1.70	16.76	1690.5	3.05
3RD FINAL W/O DEVICE	5.12	96.50	2062.5	4.04	.95	.00	1962.6	3.07	1.58	13.74	1672.6	3.90
4TH FINAL W/O DEVICE	5.40	101.35	2080.7	3.23	.94	.08	1958.8	2.27	1.64	14.28	1694.7	2.92